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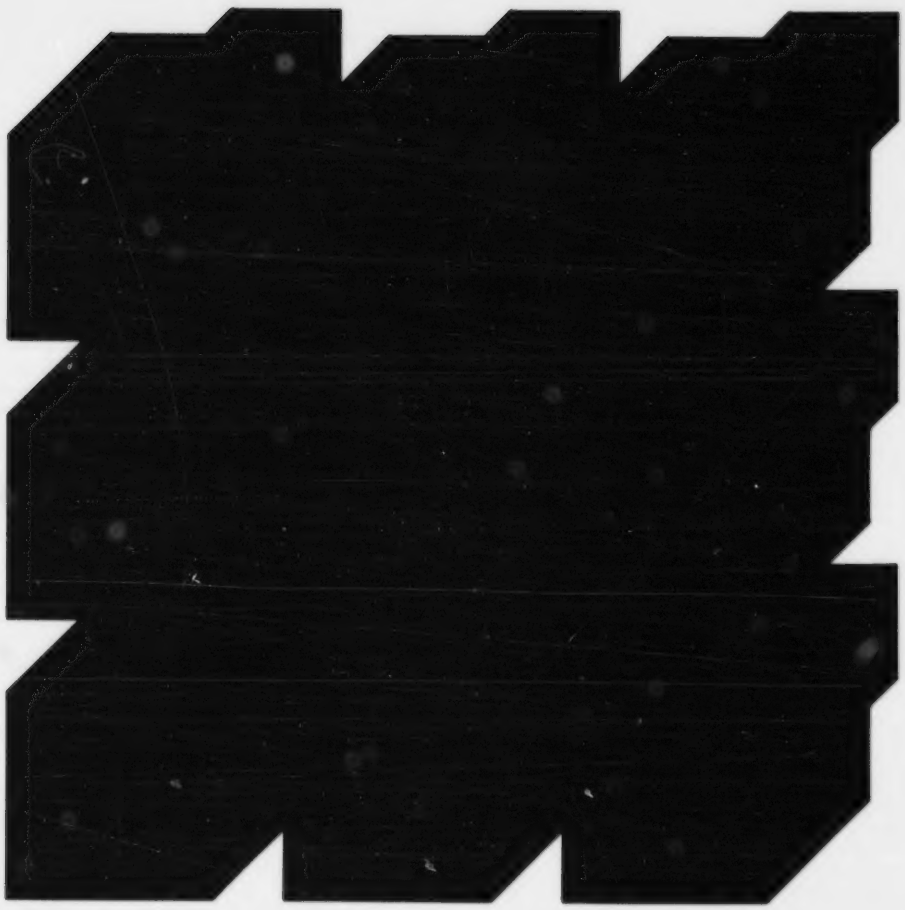

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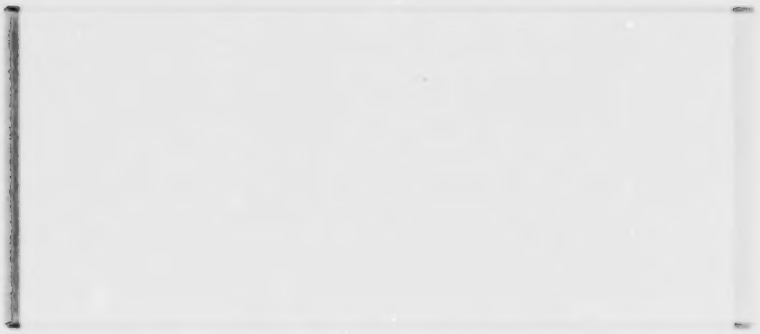

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DISCUSSION PAPER No. 344

Open Borders

An Assessment of the Canada-U.S. Free Trade Agreement

by Sunder Magun
Someshwar Rao
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Laval Lavallée
and Jonathan Peirce

The findings of this study are the personal responsibility of the authors and, as such, have not been endorsed by the members of the Economic Council of Canada.

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RÉSUMÉ

Le Canada et les États-Unis ont signé récemment un accord de libre-échange bilatéral. L'entente prévoit, entre autres, l'élimination de toutes les entraves tarifaires entre les deux pays au cours d'une période de 10 ans commençant le 1er janvier 1989. Elle a pour but de libéraliser les échanges de biens et de services entre les deux pays, d'améliorer les conditions d'investissement et d'établir un cadre efficace pour le règlement des différends commerciaux. Ce document a pour objet de simuler les répercussions, à moyen et à long termes, de l'accord bilatéral sur la production et l'emploi dans 36 secteurs industriels.

Il ressort de l'analyse que l'accord provoquerait une croissance de la production, de l'emploi et des revenus réels, de même qu'un raffermissement à long terme du dollar canadien; de plus, ces gains seraient appréciables si l'accord était accompagné d'une amélioration de la productivité. Il importe de souligner, toutefois, que l'entente ne produira pleinement ses effets que graduellement, étant donné que la suppression des tarifs douaniers et des autres entraves au commerce sera échelonnée sur une période de 10 ans.

Selon une simulation qui prévoit une amélioration de la productivité dans le secteur manufacturier canadien, l'accord entraînera une hausse de 2,5 % de la dépense nationale brute réelle en 1998. En l'absence d'augmentation de la productivité, les gains globaux aux titres de la production et de l'emploi ne seront que d'environ 30 % de ceux que montre la simulation no 2 (prévoyant une hausse de la productivité). Dans la simulation no 1 (qui ne prévoit aucune amélioration de la productivité), la plupart des industries manufacturières connaîtraient même une diminution nette de la production et de l'emploi, de sorte que l'emploi dans l'ensemble du secteur manufacturier serait réduit d'environ 1,2 %. Il appert donc que la plupart des industries manufacturières devront recourir à des mesures énergiques de rationalisation et à d'autres mesures d'adaptation afin de demeurer concurrentielles dans un régime de libre-échange.

Nos résultats indiquent également que les avantages du libre-échange seraient répartis à peu près également entre toutes les provinces canadiennes. Comme les industries de services sont généralement les principales bénéficiaires des gains de production et d'emploi, et que ces industries sont réparties assez uniformément d'un bout à l'autre du pays, les variations dans la répartition des gains de production et d'emploi entre les diverses régions seront assez faibles. Proportionnellement, les gains de l'Ontario et du Québec seront légèrement inférieurs à la moyenne nationale, étant donné l'importance des industries manufacturières dans ces deux provinces; toutefois, les deux provinces centrales

recueilleraient quand même environ 60 % de l'ensemble des gains sur le plan de la production et de l'emploi.

Les effets positifs de l'accord actuel sur l'emploi, la production et les revenus réels seront moindres que ceux que nous avions calculés dans le cadre de l'analyse d'un accord hypothétique, dont les résultats ont été publiés dans le Document n° 331. Il en est ainsi parce que l'accord actuel, par rapport à l'accord hypothétique sur lequel étaient fondés nos travaux antérieurs, prévoit une réduction moins importante des entraves non tarifaires et un accès plus limité aux marchés publics.

Pour diverses raisons, il n'a pas été possible de modéliser tous les aspects de l'accord de libre-échange. Il ressort de notre analyse quantitative des dispositions réglementaires non quantifiables de l'accord que, dans l'ensemble, les résultats de nos simulations tendent probablement à sous-évaluer les avantages que conférera aux Canadiens l'Accord de libre-échange entre le Canada et les États-Unis.

ABSTRACT

Canada and the U.S. have recently signed a bilateral free-trade agreement. The deal, which provides among other things for the removal of all tariff barriers between the two countries over a ten-year period, starting January 1, 1989, is designed to liberalize trade in goods and services between the two countries, liberalize conditions for investment, and establish an effective framework for handling bilateral trade disputes. The major objective of this paper is to simulate the impact of the bilateral agreement on output and employment by 36 industrial sectors, over both the medium term and the longer term.

We found that the agreement would result in increased output, employment, and real incomes as well as a stronger Canadian dollar over the longer term, and these gains would be significant if the agreement were to be accompanied by productivity improvements. It is important to note, however, that the agreement's full impact will make itself felt only gradually, since tariffs and other trade barriers are to be phased out over a ten-year period.

Under a simulation which incorporates productivity improvements in Canadian manufacturing, the agreement would increase real gross national expenditure by 2.5% by the year 1998. Without such improvements, the aggregate gains in output and employment will be only about 30 per cent of those in Simulation 2 (incorporating productivity). Indeed, in Simulation 1 (without productivity improvements), most manufacturing industries would experience net declines in output and employment, and employment in the entire manufacturing sector would decline by about 1.2 per cent. This finding suggests that most manufacturing industries would have to undergo considerable rationalization and other types of adjustment to become competitive under the trade agreement.

Our results also suggest that the benefits of free trade will be fairly evenly distributed across all Canadian provinces. Since the service industries are generally the major beneficiaries of the gains in output and employment and these industries are relatively evenly distributed across the country, regional variations in output and employment gains will be quite small. Ontario and Quebec will gain slightly less than the national average, in percentage terms, because of their relatively large manufacturing base; nonetheless, these two provinces should receive about 60 per cent of the overall gains in output and employment.

The actual agreement's positive impact on employment, output, and real incomes will be less than the impact estimated in our earlier analysis of a hypothetical agreement, reported in Discussion Paper #331. The gains are lower primarily because the actual agreement did not reduce non-tariff barriers or liberalize government procurement practices to the extent we had anticipated in our earlier work.

For a variety of reasons, it has not been possible to model all aspects of the free-trade agreement. Our qualitative analysis of the non-quantifiable rule-making provisions of the agreement suggest that on balance our simulation results might be understating the benefits of Canada-U.S. free trade agreement to Canadians.

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FOREWORD

In a previous study, Discussion Paper #331, the Trade Policy Group of the Economic Council simulated the longer-term impact of a hypothetical comprehensive free-trade agreement between Canada and the United States. The main conclusion of this document, summarized in the 24th Annual Review Reaching Outward, was that such an agreement would increase aggregate output, employment, and real incomes nationally and that these gains would be fairly evenly distributed across broad industrial sectors and provinces.

Since then, the two governments have signed a comprehensive free-trade agreement. Given Council's earlier results, many Canadians will wonder how that agreement compares with the hypothetical one analyzed in our previous study. The aim here is to assess the actual free trade accord and to provide a comparison of new and old estimates of its impact.

It should be noted that this paper is one of a series of studies by the Council on trade policy options and structural adjustment in Canada. The Council statement, Venturing Forth: An Assessment of the Canada-U.S. Trade Agreement, discusses the trade agreement in broad terms within the context of global change, with an emphasis on its major policy implications. The main objective of this paper is to report on the technical details of the simulation results, and sectoral and provincial analysis discussed in that Council statement. We have, as such, analyzed the impact of the Canada-U.S. agreement on output and employment by 36 industrial sectors and for the ten provinces. A number of technical papers by Council researchers and outside consultants will be released later, addressing such issues as trade liberalization and international investment; adjustment to import competition in Canadian manufacturing; trade liberalization and labour market adjustment; the role of trade barriers in trade between Canada and the U.S.A.; and the detailed sectoral analysis of the Canada-U.S. free trade agreement; and the U.S.-Canada productivity gap, scale economies, and the gains from freer trade.

The main conclusion emerging from this quantitative analysis is that the free trade agreement will increase output, employment and real incomes in Canada while incurring fairly modest adjustment costs. Virtually all consuming and producing sectors across Canada would share in these benefits. In addition, it is important to note that the simulation results might underestimate the potential benefits of the free trade agreement to Canada, because many of the dynamic and feedback effects of the free trade agreement cannot be modelled. But the size of these gains depends

upon the extent to which the Canadian manufacturing sector can increase its productivity. Without substantial productivity improvements, output and employment will decline in the manufacturing sector.

The message, then, is that while free trade will benefit the Canadian economy, it is far from being a panacea. It remains as important as it has always been for Canada to learn to use new workplace technology more effectively, expand research and development to generate new products and services, develop a flexible and highly-educated labour force, and pursue other policies designed to increase our overall competitiveness. Freer trade cannot be pursued in isolation; rather, it is but one of a number of public policy choices which must be pursued simultaneously if we are to maintain a strong national economy in the changing global environment.

Judith Maxwell
Chairman

April 1988

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Special thanks are due to Danielle Wright for typing and for patiently organizing and undertaking the miscellany of tasks associated with writing this paper.

INTRODUCTION

Canada is a trading nation. Currently, over 30 per cent of this country's gross domestic product (GDP) depends directly on exports. Over 75 per cent of those exports go to the United States. Therefore, more liberal and more secure access to U.S. export markets is vital for preserving past gains in output, employment, and real incomes and for further improving Canadians' standard of living.

Since 1947, under the auspices of GATT, Canada has like other countries, progressively reduced its tariffs. Over the last thirty years or so, Canadian tariffs, on average, were reduced by about two-thirds. The reduction of tariff barriers under successive rounds of GATT negotiations greatly increased international trade. Expanded world trade and increased economic interdependence among nations have brought new opportunities as well as adjustment problems in all trading nations, including Canada.[1] Some firms contracted, some expanded. There was a readjustment of labour allocation. But liberalized trade was accompanied by a substantial increase in output, employment, and real income in all countries. Canada, too, has benefitted considerably from the freer global trade environment over the last 25 years or so.

The Economic Council of Canada has consistently called for greater trade liberalization as a way to improve the working of

Canadian markets through greater domestic competition and to enhance Canadian living standards.[2] Furthermore, growing protectionism both in the United States and elsewhere has substantially increased the need for more secure and more enhanced access to the United States market. Either a bilateral or multilateral trade agreement would provide such access. It is generally agreed that multilateral free trade is the better solution, because it would provide greater net benefits and be politically more acceptable to Canadians.

But most trade specialists are pessimistic about the outcome of the current round of GATT negotiations. These negotiations are likely to be difficult and protracted, since the conflicting interests of several major players (the U.S.A., Japan, EEC, and developing nations) have to be reconciled. It is thought that a new multilateral agreement may be concluded by the mid-1990s. Moreover, Canada has limited influence on the outcome of these multilateral negotiations. Meanwhile, Canadian employment and real incomes are seriously threatened by protectionist actions in the United States, especially the recent adoption of two tough new trade bills by the U.S. Congress (H.R. 3 and the S. 490),, and the pending Omnibus Trade Bill that is being framed by the Conference of the U.S. Senate and the U.S. House of Representatives.

A bilateral free trade agreement with the United States would provide many of the economic benefits of a multilateral agreement. In addition, a bilateral trade agreement would allow Canada to

protect itself from future unfair U.S. trade actions, especially contingency protection (countervail and anti-dumping laws). Since Canada and the United States have very large volumes of bilateral trade and investment flows, it is natural that trade disputes arise between the two countries from time to time. A bilateral agreement could prevent many potential trade disputes, and also resolve them in a manner mutually satisfactory to both countries. Such an agreement would be an important step toward making the Canadian economy more competitive in the world market. Moreover, vigorous pursuit of bilateral and multilateral trade negotiations are not mutually exclusive. On the contrary, a bilateral agreement with the United States, on new trade issues such as services trade and foreign direct investments, could stimulate progress towards wider multilateral trade liberalization.[3]

Accordingly, in September, 1985, the Canadian government announced that it would pursue a new trade agreement with the United States, with the twin objectives of further opening up and securing access, through establishing trade rules and dispute-settlement mechanisms, to the U.S. market. The actual negotiations began in May, 1986.

Anticipating a trade deal between the two countries, the Council simulated the longer-term impact of a hypothetical comprehensive bilateral free trade agreement on the Canadian economy. These results were reported in Discussion Paper No. 331 and the 24th Annual Review.[4] The main conclusion of our earlier study was that

a comprehensive Canada-U.S. free trade accord would significantly increase output, employment, and real incomes nationally and that these gains would be distributed fairly evenly across provinces and industrial sectors. We also concluded that the effects of a free trade agreement would induce the necessary reallocation of resources from declining labour-intensive industries to growing high-tech industries. However, some industries with high current tariff protection would face stronger competitive pressures from the United States, would be affected adversely and would, therefore, incur some adjustment costs.

Since the publication of our Discussion Paper and the 24th Annual Review, the two governments have signed a free trade agreement, establishing a free-trade area encompassing Canada and the United States. The agreement respects Canada's political independence and cultural sovereignty and preserves Canada's system of social programs and regional development policies. The major objectives of the free trade agreement (FTA) are to:

- eliminate barriers to trade in goods and services between the two countries;
- facilitate fair competition;
- liberalize conditions for investment and trade in services;
- establish an effective framework for avoiding and resolving bilateral trade disputes; and
- lay the foundation for cooperation to expand and enhance the benefits of this agreement.

The agreement appears to be in conformity with Article XXIV of the GATT, allowing the contracting parties to establish free trade areas between sovereign nations.

To achieve the above objectives, the Canada-U.S. free trade agreement provides for the removal of all tariff barriers between the two countries over a period of 10 years, starting in January 1989. The ten year phase-in allows an orderly transition period for industries and workers to adapt to tariff - free trade. The agreement also provides for the removal of some existing non-tariff barriers, such as quantitative restrictions, and technical barriers between the two countries, and duty remission programs.

The free trade agreement in automotive trade builds on the principles underlying the Auto Pact of 1965. The agreement's energy provisions are designed to secure Canadian energy exporters' access to the U.S. market and to provide security of supply to American consumers. In agriculture the FTA would make Canadian farmers' access to the U.S. market both more open and more secure, and could lead to substantive negotiations towards the liberalization of global agricultural trade at the current Uruguay MTN Round of GATT.

The free trade agreement in general services gives both Canadian and American service industries the right to do business on either side of the border, creating new export opportunities for Canadian

service sectors. The financial services agreement reflects both the substantial integration of the U.S. and Canadian markets that already exists, and the trend toward deregulation that has emerged in both countries in recent years. And the agreement on government procurement could open up an estimated additional $3 billion (Cdn.) in new market opportunities in the U.S. for Canadian suppliers and $400 million in Canada for U.S. firms.[5]

Finally, the agreement provides for an improved means of avoiding and resolving trade disputes between the two neighbours. A panel with equal representation from Canada and the United States will act as a final "court of appeal" with binding powers to ensure the fair and impartial implementation of existing trade remedy laws in the two countries. In addition, the two governments have agreed to negotiate new mutually compatible trade rules respecting subsidies and dumping by 1993.

The main objective of this paper is to simulate the impact of the free trade agreement on output and employment by 36 industrial sectors and 10 provinces. Both the short to medium-term (transitional) impacts and the longer-range effects will be analyzed.[6] Of course, we will also compare and contrast our new simulation results with our earlier findings. In addition, we provide a qualitative overview of the impact of the free trade agreement by major sector. These include agriculture, autos, energy, services (including cultural services), financial services, foreign direct investment and alcoholic beverages.

The organization of the paper is as follows:

In the next Section (2), we briefly describe the analytical framework used for simulating the impact of the Canada-U.S. free trade agreement on the Canadian economy. We discuss the elements of the free trade agreement that we have been able to quantify and incorporate into the model and describe our assumptions about productivity improvements in Canadian manufacturing due to trade liberalization between Canada and the United States. For completeness, a discussion about the qualitative aspects of the free trade agreement that we have not been able to quantify is presented. The likely effects of excluded factors on the Canadian economy is indicated.

Section 3 first describes the design and the implementation of the free trade scenarios. Next, the effect of these free trade scenarios on output and employment is analyzed by industry and by province. New simulation results are then compared with the earlier estimates of free trade impacts reported in Discussion Paper No. 331 and the 24th Annual Review.

Following the analysis of simulation results, we provide in Section 4 a qualitative overview of the free trade agreement on agriculture, autos, energy, services (including financial and cultural services), foreign direct investment, and alcoholic beverages. We also analyze the implications of the dispute settlement mechanisms for a more open and secure access to the

U.S. market. Finally, Section 5 summarizes the main results of this study and offers some concluding comments.

SECTION II: Gains From Freer Trade

The main economic arguments for freer trade have been well established. There are at least five such arguments in favour of bilateral free trade between Canada and the U.S.:

- It would enable Canada to further exploit comparative advantage through increased specialization;

- It would permit the rationalization of Canadian manufacturing and allow it to reap the benefits of scale economies from larger markets;

- It would encourage technological diffusion within industry and expand our research and development efforts;

- It would stimulate overall efficiency by exposing Canadian industry to the greater competition that a larger market area provides;

- It would secure Canadian access to the large U.S. market and increase investor confidence in Canada, resulting in increased foreign and domestic investment in Canada.

Freer trade should encourage international specialization and provide a wide range of goods and services from which to choose at

lower costs to consumers and producers than would be the case if they are produced at home.

Various research studies on Canadian commercial and industrial policies have suggested that Canada's import restrictions coupled with a small domestic market, have resulted in suboptimal plant size, short production runs, and excessive product diversity. As a result, many have argued that Canadian manufacturing firms are on average substantially less efficient than their U.S. counterparts. For example, in 1986, Canadian manufacturing labour productivity (GDP per person-hour) was estimated to be about 26 per cent below the comparable U.S. figure.[7] Therefore, it is commonly argued that trade liberalization (either multilateral or bilateral), by providing a secure and more open access to the large, rich U.S. market, will permit Canadian companies to take advantage of scale economies of larger plants and larger production runs, leading to higher total factor productivity, lower unit production costs, and a higher standard of living in Canada. The possibility of gains in manufacturing productivity, through scale economies and rationalization is a major argument in favour of trade liberalization in this country.[8] Trade liberalization, by exposing Canadian industries to the rigours of international competition, could improve productivity and real income in a number of other important ways: by speeding up the reallocation of resources from declining industries to growing industries, by encouraging plants to adopt new technology more quickly, by expanding R&D activities, and by increasing the

flexibility of both product and factor markets. Indeed, these dynamic gains, though hard to measure, could be more important than those arising from scale economies and rationalization.[9] Improved productivity and wage price performance could increase the likelihood of stimuli to aggregate demand through fiscal and monetary policies during the short-to-medium term, leading to higher output and employment growth rather than increased inflation.

Free-trade-induced rationalization, product specialization, and modernization would substantially increase investment in plant and equipment in Canada. In addition, increased investor confidence, due to this country's secure and enhanced access to U.S. markets, could further increase investment in Canada, especially in primary and resource-based industries. Furthermore, overseas producers might find it attractive to set up production facilities in Canada (especially if Canadian costs and exchange rate conditions were favourable) and supply the whole North American market from Canada. All in all, free trade is expected to increase capital formation significantly in Canada.

Against these productivity and investment gains there would, of course, be some dislocations in jobs and plants, and, thus, adjustment costs. But according to available estimates and our own work, these adjustment costs (closing of plants, loss of employment, and job dislocations) should be small in comparison to the ongoing economic adjustment caused by structural changes

(technological change, long term changes in comparative advantage, etc.).[10] Moreover, these adjustment costs would be moderated by the phasing-in provisions of the free trade agreement.

Possible losses in terms-of-trade (the ratio of average export price to the average import price) and trade diversion effects could reduce the gains from free trade. It has often been argued that under free trade the smaller partner such as Canada would suffer a terms-of-trade loss.

As well, Canada-U.S. free trade could in theory impose trade diversion costs on Canada, reducing the potential gains from free trade. The Canada-U.S. free trade agreement, by granting preferential duty free access to U.S. imports, could reduce the share of lower-cost third country imports in favour of an increased share of higher-cost U.S. imports, raising the average cost of imports to Canadians -- similar to a terms of trade loss. However, since more than three-quarters of Canadian trade is currently conducted with the United States, the trade diversion costs from bilateral free trade are expected to be quite small.[11]

In summary, freer bilateral trade would substantially increase productivity and real incomes in Canada. Most producer and consumer groups would also stand to gain from liberalized bilateral trade. Consumers will gain either through reduced consumer prices or through a greater diversity of consumer goods. Producers will also gain through greater exports to the U.S.A. and

reduced import prices on imported inputs. The main exception would be firms that were unable to rationalize their operations to take advantage of scale economies in a larger market and lower their costs sufficiently to meet new external competition. Such adjustment problems would probably lead to relocation costs, loss of employment, and reduction in real wages for the employees of those firms adversely affected by bilateral trade liberalization.

Our Research Strategy

We will simulate the longer term impact of the Canada-U.S. free trade agreement on output and employment by industry and by province, using the research methodology described in Discussion Paper No. 331. Using the data on tariff barriers and the estimates of non-tariff barriers (tariff equivalents) that are being removed, the estimated impact of government procurement agreement on exports and imports, and estimates of productivity improvements, we simulate the aggregate effects of the free trade agreement on output, employment, prices, exchange rate and various other macro-indicators using CANDIDE Model 3.0.[12]

The industry impacts of the free trade agreement are computed in three steps. In the first step, we compute the direct effects (longer-term) of free trade on net exports (exports less imports) by commodity, using our estimates of trade barriers and trade elasticities. These changes in net exports by commodity are translated into changes in output and employment by industry,

using the Statistics Canada Input - Output Model of the Canadian economy.

In the second step, longer-term changes in final demand from the CANDIDE simulation (excluding exports and imports) are translated into indirect effects on output and employment by industry, using the Statistics Canada Input-Output Model. In the third step, the total effects of free trade by industry are computed as the sum of direct and indirect effects trade by industry. Of course, the total effects are constrained to add up to the CANDIDE aggregate long-term effects on output and employment. A detailed description of the procedures used to link the two models is given in Table 1. These national industry effects (total effects) are translated into provincial impacts by industry, using the 1979 market shares implicit in the Statistics Canada Regional Input-Output Model of the Canadian economy.

The transitional impacts (1989-98) of the free trade agreement on major economic indicators are simulated with the help of CANDIDE Model 3.0, allowing for the phase-in of the removal of tariffs and non-tariff barriers in the two countries and productivity improvements.

Major Assumptions

The nature, the size, and the time path of the impacts of the Canada-U.S. free trade agreement on the Canadian economy

Table 1

Linking CANDIDE Model 3.0 with the Statistics Canada Input-Output (I/O) Model: Canada-U.S. Free Trade Simulations

Objectives:
1) Statistics Canada National Input-Output Model is used to obtain sufficient industry disaggregation. The direct effects of Canada-U.S. free trade on net exports by 69 commodities are translated into changes in output and employment by industry using the I/O Model.
2) On the other hand, indirect effects of Canada-U.S. free trade on consumer expenditure, investment, government expenditure on goods and services and inventory change are captured well by the CANDIDE Model. These changes in final demand (excluding net exports) are passed through the I/O Model to obtain the indirect effects of Canada-U.S. free trade on output and employment by industry in Canada. The sum of direct and indirect effects gives the total effect by I/O industry.

Simulation 1	Step 1	Step 2	Step 3
Removal of trade barriers (tariffs, and NTBs and federal government discriminatory procurement policies) in two countries.	Direct effects by I/O industry: Using the information on percent changes in export and import prices (due to the removal of trade barriers), import and export price elasticities and the base case volume of exports and imports (1995), changes in exports and imports by 69 commodities are computed. These changes in net exports are in turn converted into changes in output and employment by I/O industry.	Indirect effects by I/O Industry: The impact of Canada-U.S. free trade on final demand by commodities (excluding exports and imports) from the CANDIDE Simulation (1995) are passed through the I/O Model to obtain the indirect effects on output and employment by industry.	Total effects by I/O industry: These are computed by summing the direct and the indirect effects.
Simulation 2	**Step 1**	**Step 2**	**Step 3**
Removal of trade barriers in the two countries plus improvements in manufacturing productivity due to scale economies and rationalization.	Direct effects by I/O industry: Using the information on percent changes in export and import prices (due to the removal of trade barriers), import and export price elasticities and the base case volume of exports and imports (1995), changes in exports and imports by 69 commodities are computed. These changes in net exports are in turn converted into changes in output and employment by I/O industry.	Indirect effects of Canada-U.S. free trade on final demand from Simulation 2 (excluding net exports), from the CANDIDE Model (1995), are passed through the I-O Model to obtain the indirect effects on output and employment by I/O industry.	The sum of direct and indirect effects by I/O industry gives the total effect by I/O industry.

Source Magun, Rao, and Lodh (1987).

depend on several factors: the size and the industrial structure of tariff barriers in the two countries; the size and the industrial composition of the non-tariff barriers being removed in both countries; the effects of the government procurement agreement on Canadian exports and imports; the extent of estimated improvements in Canadian productivity; and assumptions about fiscal, monetary and the exchange rate policies. They also depend on the nature of phasing-in of trade barrier reductions and productivity improvements; and, finally, the structure and the properties of the model used to simulate the free trade impacts.

Therefore, before we proceed with the description of the design of the free trade scenarios and the discussion of simulation results, it is both appropriate and useful to describe the major assumptions of the free trade scenarios. Following the discussion of our assumptions, we briefly describe the non-quantifiable aspects of the free trade agreement that we were unable to incorporate into the model and indicate, in qualitative terms, their likely impact on the Canadian economy.

Tariffs

The Canada-U.S. free trade agreement in tariffs continues the post-war trend toward trade liberalization. For instance, the average tariff rate on Canadian imports declined from 10.5 per cent in 1955 to 3.9 per cent (close to a 65 per cent reduction) in

1985, after seven rounds of multilateral trade negotiations and several sector specific trade liberalization agreements.

Currently about 70 per cent of Canadian merchandise trade with the United States is free of tariffs. The Canada-U.S. free trade agreement gradually eliminates tariffs on the remaining 30 per cent of bilateral trade with the U.S. over 10 years, starting on January 1, 1989. As shown in Discussion Paper No. 331, in all industrial sectors except fishing and trapping, Canadian tariffs are significantly higher than their U.S. counterparts. The average Canadian tariff rate on all goods is about 3.8 per cent (11.2 per cent on dutiable goods), compared to 2.3 per cent in the United States (6.5 per cent on dutiable goods). However the industrial structure of tariff protection is similar in the two countries (see Table 2). In both countries, tariff protection is much greater for manufactured goods than non-manufactured goods (primary industries). Within manufacturing, tariffs are relatively high on labour-intensive manufactured goods (non-durables) and relatively low on semi-durable and durable manufactured products.

The removal of tariff barriers between the two countries will be effected in three stages:

First, tariffs will be removed immediately (Jan. 1, 1989) in sectors in which producers in both countries are already strong enough to compete freely. Examples of products in this category

Table 2

Comparison of Canadian and U.S. Trade Barriers

Industry	Canada		United States	
	Tariff rate	NTBs (tariff equivalent)	Tariff rate	NTBs (tariff equivalent)
	(Per cent)			
Agriculture	2.2	11.9	2.2	6.9
Forestry	0.0	0.1	0.2	0.2
Fishing and trapping	0.2	0.0	1.4	0.0
Metal mines	0.1	0.0	0.2	0.0
Mineral fuels	0.4	0.0	0.3	0.0
Non-metal mines and quarries	0.5	0.0	0.1	0.4
Food and beverage	4.2	9.0	3.5	8.5
Tobacco products	16.0	0.0	10.1	0.6
Rubber and plastics products	8.9	0.0	8.4	0.4
Leather products	12.0	4.2	7.9	0.0
Textiles	8.9	0.0	7.3	0.4
Knitting mills	21.5	0.0	12.6	0.4
Clothing	17.2	0.0	10.7	0.4
Wood products	2.7	0.0	1.4	12.9
Furniture and fixtures	12.6	0.0	3.0	0.8
Paper and allied products	4.0	0.0	0.9	0.3
Printing and publishing	1.4	0.8	0.5	0.2
Primary metals	4.0	1.3	2.2	4.2
Metal fabricating	6.8	0.9	3.2	1.0
Machinery	4.7	0.9	2.5	3.0
Transportation and equipment	2.3	0.0	0.5	0.0
Electrical products	6.1	0.9	3.7	0.1
Non-metallic mineral products	3.4	0.0	2.9	0.0
Petroleum and coal products	0.5	0.0	0.4	0.0
Chemicals and chemical products	5.6	0.0	2.2	1.2
Misc. manufacturing	6.2	0.9	3.5	0.2
Goods producing	3.8	1.0	2.3	1.8

Source Magun, Rao, and Lodh (1987).

are: skis (now protected by a 5.1 per cent U.S. tariff and a 11.4 per cent Canadian tariff), skates (now protected by a 5.8 per cent U.S. tariff and a 22.5 per cent Canadian tariff), fur garments (U.S. tariff of 5.8 per cent and Canadian tariff of 25 per cent) and various others, including computers, whiskey, motorcycles, cattle, fish, and most forms of leather.

Second, for certain other sectors, tariffs will be eliminated in five equal steps, starting on January 1, 1989. These include: subway cars (U.S. tariff of 6.3 per cent and Canadian tariff of 12.5 per cent), furniture (U.S. tariff of 4 per cent and Canadian tariff of 15 per cent) and chemicals, paints, explosives, after market auto parts (repair parts), and most machinery.

Finally, all other tariffs will be eliminated in ten equal steps, starting on January 1, 1989. A majority of tariff items fall in this category. Some examples are: steel (U.S. tariff of 11.6 per cent and Canadian tariff of 12.5 per cent), appliances (U.S. tariff of 4 per cent and 12.5 per cent Canadian tariff), tires, railcars, textiles and apparel, softwood plywood, and most agricultural products. There is one exception to the 10-year tariff-cutting formula. In the event of any serious market disruption Canadian fresh fruit and vegetables could retain their current protection (duties up to 22.5 per cent) for the next 20 years to give Canada's sensitive horticultural industry added time to adjust to free trade.[13]

There are two important qualifications to the tariff-cutting formulas in the free trade agreement (FTA). First, if both countries agree through further bilateral negotiations, the staging of tariff reductions can be accelerated, as was the case with the European Community (EEC), European Free Trade Association (EFTA) and the Australia-New Zealand free trade area. Second, both countries have agreed to work out 'rules of origin' to ensure that neither country will simply pass along from one to the other low cost Third World imports with very limited North American content. In addition to eliminating tariffs, the U.S. has agreed to phase out customs user fees by January 1, 1994.

The time path of Canadian and American tariff reductions by industrial sector is shown in Tables 3 and 4.[14] During the first year the average tariff rate on Canadian merchandise imports will decline from 3.8 per cent to about 3.2 per cent, about a 15 per cent decline, the U.S. rate will also decline by about 15 per cent. By 1993, both the average Canadian and the U.S. tariff rates will be reduced by about 65 per cent (see Chart 1). However, since Canadian tariffs in general are significantly higher than their U.S. counterparts, the average yearly reduction in Canadian tariff protection during the 1989-1998 period will be significantly larger than the comparable reduction in U.S. tariffs. In both countries the staging of tariff reductions is generally slower in agriculture and the non-durable, more labour intensive, manufacturing industries, and faster in the durable manufacturing industries.

Table 3

Tariff Level Schedule Under the Free Trade Agreement, by Industry, Canada, 1989-98

(Percent)

Industry	Base Rate 1987	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Agriculture	2.2	2.0	1.7	1.5	1.2	1.0	0.8	0.6	0.4	0.2	0.0
Forestry	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fishing, Hunting, Trapping	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Metal Mines	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mineral Fuels	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.0
Non-Metal Mines	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Food and Beverage	4.2	3.7	3.3	2.9	2.4	2.0	1.6	1.2	0.8	0.4	0.0
Tobacco Products	16.0	14.4	12.8	11.2	9.6	8.0	6.4	4.8	3.2	1.6	0.0
Rubber and Plastic Products	8.9	8.0	7.0	6.1	5.2	4.2	3.4	2.5	1.7	0.9	0.0
Leather Products	12.0	4.5	3.9	3.4	2.8	2.3	1.8	1.4	0.9	0.5	0.0
Textiles	8.9	8.0	7.1	6.2	5.3	4.4	3.5	2.6	1.8	0.9	0.0
Knitting Mills	21.5	19.3	17.2	15.0	12.9	10.7	8.6	6.4	4.3	2.2	0.0
Clothing	17.2	15.5	13.8	12.0	10.3	8.6	6.9	5.2	3.4	1.7	0.0
Wood Products	2.7	2.4	2.1	1.7	1.4	1.1	0.9	0.7	0.4	0.2	0.0
Furniture and Fixtures	12.6	10.4	8.2	6.0	3.8	1.6	1.3	1.0	0.6	0.3	0.0
Paper Products	4.0	3.2	2.4	1.6	0.8	0.1	0.0	0.0	0.0	0.0	0.0
Printing and Publishing	1.4	1.1	0.8	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Primary Metals	4.0	3.5	3.1	2.7	2.2	1.8	1.4	1.1	0.7	0.4	0.0
Metal Fabricating	6.8	5.9	5.1	4.3	3.5	2.6	2.1	1.6	1.1	0.5	0.0
Machinery	4.7	3.2	2.5	1.8	1.1	0.3	0.3	0.2	0.1	0.1	0.0
Transportation Equipment	2.3	1.9	1.7	1.5	1.2	1.0	0.8	0.6	0.4	0.2	0.0
Electrical Products	6.1	5.2	4.4	3.5	2.7	1.9	1.5	1.1	0.7	0.4	0.0
Non-Metal Minerals	3.4	2.4	2.1	1.8	1.4	1.1	0.9	0.7	0.5	0.2	0.0
Petroleum and Coal	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.0
Chemical Products	5.6	4.6	3.6	2.5	1.5	0.5	0.4	0.3	0.2	0.1	0.0
Misc. Manufacturing	6.2	5.5	4.8	4.2	3.5	2.8	2.2	1.7	1.1	0.6	0.0
Total	3.8	3.2	2.8	2.3	1.9	1.4	1.1	0.9	0.6	0.3	0.0

Note: Figures have been rounded to one decimal place.
Source Economic Council of Canada.

Table 4

Tariff Level Schedule Under the Free Trade Agreement, by Industry, U.S.A., 1989-98

(Percent)

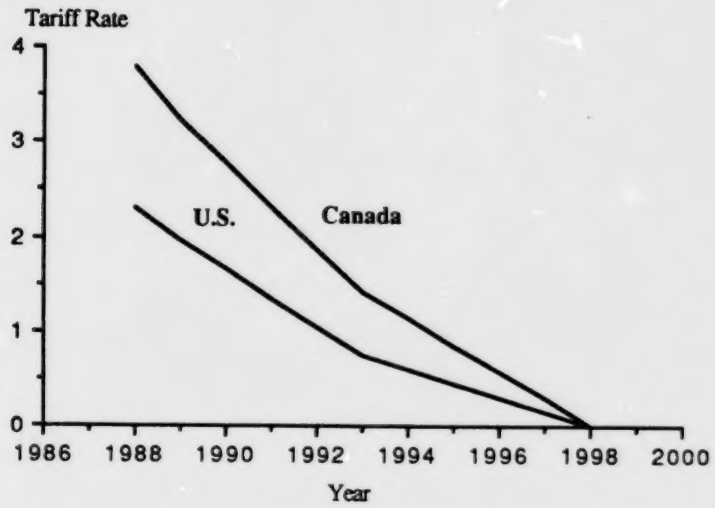
Industry	Base Rate 1987	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Agriculture	2.2	2.0	1.7	1.5	1.2	1.0	0.8	0.6	0.4	0.2	0.0
Forestry	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fishing, Hunting, Trapping	1.4	1.1	0.9	0.6	0.4	0.1	0.1	0.1	0.0	0.0	0.0
Metal Mines	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mineral Fuels	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Metal Mines	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Food and Beverage	3.5	3.2	2.8	2.5	2.1	1.8	1.4	1.1	0.7	0.4	0.0
Tobacco Products	10.1	9.1	8.1	7.1	6.1	5.1	4.0	3.0	2.0	1.0	0.0
Rubber and Plastic Products	8.4	7.4	6.6	5.8	4.9	4.1	3.3	2.5	1.6	0.8	0.0
Leather Products	7.9	1.3	1.1	1.0	0.8	0.7	0.6	0.4	0.3	0.1	0.0
Textiles	7.3	6.5	5.8	5.0	4.3	3.6	2.9	2.2	1.4	0.7	0.0
Knitting Mills	12.6	11.4	10.1	8.9	7.6	6.3	5.1	3.8	2.5	1.3	0.0
Clothing	10.7	9.7	8.6	7.5	6.5	5.4	4.3	3.2	2.2	1.1	0.0
Wood Products	1.4	1.2	0.9	0.6	0.4	0.1	0.1	0.1	0.0	0.0	0.0
Furniture and Fixtures	3.0	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Paper Products	0.9	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Printing and Publishing	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.0
Primary Metals	2.2	1.8	1.6	1.4	1.2	1.0	0.8	0.6	0.4	0.2	0.0
Metal Fabricating	3.2	2.6	2.2	1.9	1.5	1.1	0.9	0.7	0.4	0.2	0.0
Machinery	2.5	1.8	1.4	1.0	0.5	0.1	0.1	0.1	0.1	0.0	0.0
Transportation Equipment	0.5	0.4	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0
Electrical Products	3.7	3.1	2.5	1.9	1.3	0.7	0.6	0.4	0.3	0.1	0.0
Non-Metal Minerals	2.9	2.3	2.0	1.6	1.3	1.0	0.8	0.6	0.4	0.2	0.0
Petroleum and Coal	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chemical Products	2.2	2.0	1.8	1.5	1.3	1.1	0.9	0.7	0.4	0.2	0.0
Misc. Manufacturing	3.5	1.7	1.4	1.2	0.9	0.7	0.5	0.4	0.3	0.1	0.0
Total	2.3	2.0	1.7	1.4	1.1	0.7	0.6	0.4	0.3	0.2	0.0

Note: Figures have been rounded to one decimal place.
Source Economic Council of Canada.

Chart 1

Aggregate Tariff Path of Total Imports for Canada and the U.S. Under Canada-U.S. Free Trade Agreement, 1989-1998

(Percent)



Source Economic Council of Canada estimates based on Canada-U.S. Free Trade Agreement Tariff Schedules, December 1987 with the assistance of the Trade Negotiation Office, Ottawa. Base rate tariffs in 1988 for total imports are based on production weights as reported in the Council's Discussion Paper 331 and are 3.8 and 2.3 percent for Canada and the U.S., respectively.

The elimination of tariffs will benefit both consumers and producers in the two countries by providing lower prices to consumers and lower input costs to producers. Lower costs for imported materials, together with more open and secure market access to the large U.S. market, would make Canadian industry more productive and competitive both at home and abroad. The elimination of U.S. tariffs would encourage further processing of materials and products, and increase the value-added in Canada, because U.S. tariff rates are higher on processed goods, than on primary materials. But bilateral tariff removal would also force Canadian companies to significantly restructure, via rationalization, their operations and become more efficient in order to compete and survive in a tariff-free North-American marketplace. Since tariffs are phased out over a 10-year period, both the benefits and the adjustment costs of FTA will occur gradually.

Non-tariff Barriers

Since the mid-1970s, in response to import-competing sectors' difficulties in adjusting to changes in long-term comparative advantage and a generally more uncertain, volatile international climate, national governments have increasingly used trade policies to artificially improve their competitive position and respond to internal political pressures. Because of successive rounds of MTN tariff reductions under the GATT, the use of non-tariff barriers (NTBs) has increased.[15] These NTBs include:

Voluntary Export Restraints on supplier countries (VER), Orderly Marketing Agreements (OMA), quantitative restrictions (quotas), technical barriers related to standards, health, and safety, duty remission and duty drawbacks, contingency protection (countervails, safeguards, and anti-dumping), subsidies, discriminatory government procurement policies, and the like.

NTBs have been a major source of friction in Canada-U.S. trade relations for some time. Canada's growing merchandise trade surplus with the U.S. has been accompanied by the disturbing application of American trade remedy laws, particularly the much publicized U.S. safeguard actions on shakes and shingles and countervails on softwood lumber and hogs. These U.S. trade actions and the pending Omnibus Trade Bill in the U.S. Congress have threatened Canadian access to the U.S. market and created considerable uncertainty in Canada over rising U.S. protectionism and its adverse implications for Canadian exports, output, and employment.

In our earlier Discussion Paper No. 331, we identified and quantified most of the existing non-tariff barriers to goods trade between the two countries. Our estimates of NTBs (tariff equivalents) capture the effects of contingency protection, voluntary export restraints, quotas, prohibition (health and safety standards), import licensing, and discretionary custom valuations in both countries. The tariff equivalent of an NTB

measures the percentage change in import price of a given commodity in the importing country.

Our estimates indicated that NTBs (tariff equivalents) are, on average, higher in the United States than in Canada. In the U.S., they average 1.8 per cent of the total value of trade, compared to 1.0 per cent in Canada (see Table 2.0). Nevertheless, like that of tariffs, the structure of NTB protection is similar in the two countries. In both countries NTBs are concentrated in agriculture and food and beverage industries.

FTA Impact on the Level and Structure Non-Tariff Barriers[16] in Canada and the United States

We have quantified, by measuring tariff equivalents, the following NTBs that will be removed under the free trade agreement:

- mutual exemptions from restrictions under meat import laws, ensuring free trade in beef and veal;

- increases in Canadian global import quotas on chicken, turkey and eggs;

- removal of U.S. technical barriers on Canadian exports of pork products;

- elimination of Canadian Western Grain Transportation subsidies on exports to the United States, primarily affecting Canadian exports of millfeed and canola meal to that country;

- removal of discriminatory pricing (differential mark-ups) of wine and distilled spirits;

- removal of all duty remission programs;

- revision of Canadian Copyright law to provide protection (royalty payments) for U.S. cablevision stations with regard to transmission signals;

- removal of U.S. countervailing duties on Canadian shakes and shingles; and

- removal of voluntary export restraints on Canadian exports of steel products to U.S.

Our estimates of the impact of FTA on the remaining NTBs suggest that the existing pattern of NTBs (tariff equivalents) will remain more or less intact in the two countries, because existing NTBs in agriculture and food and beverage industries are to a large extent unaffected by the agreement (see Box 1). For example, the average Canadian agricultural NTB declines only from 11.9 per cent (our earlier estimate) to 11.3 per cent (see Table 5). Similarly, the average U.S. agricultural NTB declines from 6.9 per cent to only

Box 1

Nontariff Barriers Remaining in Agriculture after the Implementation of the Canada-U.S. Free-Trade Agreement

	Nontariff barrier	Canada	United States
Wheat	Subsidies	X	X
Unprocessed milk	Prohibition and standards	X	
Poultry (eggs, chicken, and turkey)	Quotas	X*	
Hogs	Countervailing duties		X
Dairy products	Import controls and standards	X	X
Corn	Countervailing duties	X	
Sugar	Quotas		X*
Meat products other than red meats	Health standards	X*	X*

X Existing nontariff barriers will remain.

* Nontariff barriers will be changed slightly as a result of free trade.

Source Estimates by the authors, Ottawa, 1988.

Table 5

Canadian and U.S. Non-Tariff Barriers: Extent of Prevalence Under ECC Discussion Paper No. 331 (DP 331) and Canada-U.S. Free Trade Agreement (Actual)

(Percentage in Tariff Equivalents by I/O Classification)

	Canada		U.S.	
	DP 331	Actual	DP 331	Actual
Agriculture	11.90	11.26	6.90	6.24
Forestry	0.10	0.10	0.20	0.15
Fishing, Hunting, Trapping	0.00	0.00	0.00	0.00
Metal Mines	0.00	0.00	0.00	0.00
Mineral Fuels	0.00	0.00	0.00	0.00
Non-Metal Mines	0.00	0.00	0.40	0.40
Mining Services	0.00	0.00	0.40	0.40
Food and Beverage	9.00	6.93	8.50	7.75
Tobacco Products	0.00	0.00	0.60	0.60
Rubber and Plastic Products	0.07	0.07	0.40	0.40
Leather Products	4.20	4.20	0.00	0.00
Textiles	0.10	0.00	0.40	0.40
Knitting Mills	0.00	0.00	0.40	0.40
Clothing	0.00	0.00	0.40	0.40
Wood Products	0.00	0.00	12.90	3.97
Furniture and Fixtures	0.00	0.00	0.83	0.83
Paper Products	0.00	0.00	0.30	0.30
Printing and Publishing	0.80	0.80	0.20	0.20
Primary Metals	1.30	1.30	4.20	0.04
Metal Fabricating	0.90	0.88	1.00	0.63
Machinery	0.90	0.90	3.00	2.96
Transportation Equipment	0.23	0.00	0.00	0.00
Electrical Products	0.90	0.90	0.10	0.10
Non-Metal Minerals	0.00	0.00	0.01	0.01
Petroleum and Coal	0.00	0.00	0.00	0.00
Chemical Products	0.00	0.00	1.20	1.20
Misc. Manufacturing	0.90	0.90	0.20	0.20
	1.00	0.74	1.80	1.22

Source Economic Council of Canada, March 1988.

6.2 per cent. While the aggregate effects are not large, the FTA removes American quantitative restrictions on shakes and shingles and steel products and the Canadian NTBs on wine and spirits (differential mark-ups) and motor vehicle parts (duty remission programs) - see Table 6.

In sum, the Canada-U.S. free trade agreement will have only a very limited impact on the level of those NTBs identified in our Discussion Paper NO. 331. For instance, the average Canadian NTB 'tariff equivalent) declines from 1.0 per cent to slightly above 0.7 per cent (about a 25 per cent reduction). Likewise, the U.S. rate declines only from 1.8 per cent to slightly under 1.2 per cent (about a 30 per cent reduction). Consequently, gains in output, employment, and real incomes from the Canada-U.S. free trade agreement will be significantly smaller than those under the comprehensive free trade deal that we envisaged in our Discussion Paper No. 331.

Federal Government Procurement Policies

The Canada-U.S. free trade agreement has initiated some new efforts to open up more of each country's federal government purchases to suppliers from the other country. The two important provisions of the agreement in government procurement are:

Table 6

Extent of Non-tariff Barriers Removal Under FTA
(Percent in Tariff Equivalents by Product
Description and by Type of Barrier)

	General product description	NTB Type	I/O Commodity Correspondence (I/O No.)	Canada	U.S.
				NTB removed (I/O by Commodity) (%)	NTB removed (I/O by Commodity) (%)
1	Eggs, chicken, and turkey	Import quotas, 1989	Live animals (2) Other agricultural products (3)	2.0	-
2	Beef and veal	Meat import laws, 1989	Live animals (2) Meat Products (14)	1.0	3.5
3	Pork	Removal of technical barriers, 1991	Live animals (2)	1.0	2.5
4	Canola meal and millfeeds	Canadian subsidies on western grain transportation, 1991	Feeds (18) Flour, wheat, meal (19)	3.1	-
5	Sugar-containing products	U.S. quantitative restrictions removed for 10 per cent or less sugar by dry weight, 1989	Sugar (21)	-	1.5
6	Cedar shakes	U.S. duty eliminated in 1991	Other wood fabric materials (38)	-	20.0
7	Specialty steel	U.S. duty eliminated in October 1991 (voluntary export restraint)	Iron & steel products (45)	-	9.50
8	Motor vehicle parts	Duty remission, phased out over 8 years, starting in 1989	Motor vehicle parts (56)	1.1	-
9	Wine and spirits	Removal of differential mark-ups, phased out over 7 years, starting in 1989	Alcoholic beverages (24)	25.0	1.0
10	Cablevision	Canadian copywright law revision, phased out over 10 years, starting in 1989	Radio & television broadcasting (75)	1.0	-
11	Customs user fees	U.S. user fees of 0.17 per cent eliminated in 1994	Applicable to All I/O goods	-	0.17

Note: Certain provisions in FTA, in regard to NTBs, particularly with regard to the effects of harmonization of technical barriers and dispute settlement mechanism, cannot be fully quantified and are ignored here. Government procurement effects are not shown here because these are not very significant under FTA and also, we introduce them as changes in quantities rather than tariff equivalents for trade simulation purposes.

- a decrease in the threshold level of government procurement from the GATT Code restriction of US$ 171,000 (Cdn.$238,000) to US$ 25,000 (Cdn.$33,000); and

- improvements in transparency procedures governing bid-challenge systems, for equitable treatment of potential suppliers from both countries;

The two federal governments have jointly estimated the total value of new contracts likely to be opened for competitive bidding under the free trade agreement. It is estimated by Canadian and American negotiators that about $400 million (Cdn$) of additional Canadian government procurement will be, potentially, opened for U.S. bidding and about $3 billion (Canadian) additional U.S. government purchases will be opened for Canadian bidding. A comparison of the estimates of additional new government contracts opened for bidding under FTA with our earlier estimates of the potential market in the two countries (see Discussion Paper No. 331) shows that a large chunk of federal government procurement in both countries is not covered under FTA. Annex 1304.3 of the Canada-U.S. Free Trade Agreement lists all the FSC (Federal Supply Classification) goods that are excluded and included under the FTA. In addition, the free trade agreement does not cover contracts reserved (set-aside) for small and minority businesses in the two countries.

Using the methodology of Discussion Paper NO. 331, we have estimated the impact of FTA in federal government procurement on additional Canadian exports and imports by commodity group. This procedure assumes that the observed difference between federal government and private sector average import propensities is entirely due to discrimination between domestic and foreign suppliers (see Appendix B). Our calculations suggest that freer trade in government procurement would increase Canadian exports to the U.S. by $140 million (in 1985 prices) and increase Canadian imports from the U.S. by about $128 million (in 1985 prices), an increase of $12 million in net exports in Canada (see Table 7). However, it needs to be stressed that these import propensities are based on historical data subject to particular trade and economic regimes of the times, and that in a free trade environment these propensities could change significantly. Hence our estimates of additional exports and imports should be used with caution.

In Discussion Paper No. 331, we suggested that a comprehensive bilateral free trade agreement on federal government procurement of goods would increase Canada's net exports by about $800 million (1984 prices). What are the reasons for this big difference between the two sets of estimates? Our analysis suggests that two factors largely are responsible. First, as mentioned before, the potential volume of total government procurement open for bidding in the two countries is very small, compared to the estimates of potential volume given in Discussion Paper No. 331. Second, it

Table 7

Government Procurement Under Canada-U.S. Free Trade Agreement: Additional Imports of Canada and the U.S.

(in Thousands of Canadian Dollars, 1987 prices)

		Canadian Imports from the U.S.	U.S. Imports from Canada
1	Grains	0	0
2	Live Animals	11	7
3	Other Agricultural Products	0	0
4	Forestry Products	0	0
5	Fish Landings	0	0
6	Hunting and Trapping Products	0	0
7	Iron Ores and Concentrates	0	0
8	Other Metal Ores and Concentrates	0	0
9	Coal	0	0
10	Crude Mineral Oils	0	0
11	Natural Gas	0	0
12	Non-metallic Minerals	22	893
13	Services Incidental to Mining	0	0
14	Meat Products	0	0
15	Dairy Products	0	0
16	Fish Products	0	0
17	Fruits and Vegetables Preparations	0	0
18	Feeds	0	0
19	Flour, Wheat, Meal and Other Cereals	0	0
20	Breakfast Cereal and Bakery Products	0	0
21	Sugar	0	0
22	Miscellaneous Food Products	1,576	2,513
23	Soft Drinks	0	0
24	Alcoholic Beverages	0	0
25	Tobacco Processed Unmanufactured	0	0
26	Cigarettes and Tobacco Manufactured	0	0
27	Tires and Tubes	393	0
28	Other Rubber Products	0	0
29	Plastic Fabricated Products	0	0
30	Leather and Leather Products	0	0
31	Yarns and Man Made Fibres	0	0
32	Fabrics	0	0
33	Other Textile Products	373	15
34	Hosiery and Knitted Wear	0	0
35	Clothing and Accessories	393	627
36	Lumber and Timber	0	0
37	Veneer and Plywood	1,205	823
38	Other Wood Fabricated Materials	0	0
39	Furniture and Fixtures	5,358	2,608
40	Pulp	0	0
41	Newsprint and Other Paper Stock	0	0
42	Paper Products	2,950	762
43	Printing and Publishing	0	0
44	Advertising, Print Media	0	0
45	Iron and Steel Products	210	0
46	Aluminum Products	0	0
47	Copper and Copper Alloy Products	0	0
48	Nickel Products	0	0
49	Other Non-ferrous Metal Products	0	0
50	Boilers, Tanks and Plates	895	146
51	Fabricated Structural Metal Products	179	909
52	Other Metal Fabricated Products	0	8,119
53	Agricultural Machinery	1,341	0
54	Other Industrial Machinery	22,920	58,837
55	Motor Vehicles	7,602	5,678
56	Motor Vehicle Parts	0	0
57	Other Transport Equipment	2,013	4,955
58	Appliances and Receivers, Household	2,453	273
59	Other Electrical Products	8,601	7,698
60	Cement and Concrete Products	188	92
61	Other Non-metallic Mineral Products	420	29,423
62	Gasoline and Fuel Oil	282	0
63	Other Petroleum and Coal Products	1,699	5,441
64	Industrial Chemicals	0	0
65	Fertilizers	141	273
66	Pharmaceuticals	0	0
67	Other Chemical Products	0	10,634
68	Scientific Equipment	65,463	0
69	Other Manufactured Products	3,354	0
	Total	128,041	140,726

appears that under the FTA Canada has obtained access to those commodity group for which the American import ratios, on average, are smaller than the average U.S. import propensity (ratio of total U.S. imports to U.S. GNE).

In summary, the procurement provisions of the agreement will have a small impact on Canadian exports and imports. Therefore, its impact on output and employment in Canada is also likely to be limited.

Improvements in Manufacturing Productivity: Scale Economies and Rationalization

Research done at the Council concerning U.S.-Canada labour productivity and per capita income comparisons indicates that the poor performance of Canadian manufacturing productivity accounted for over half of the aggregate labour productivity and per capita income gap (about 9 per cent) in 1986. Currently, Canadian manufacturing labour productivity is about 25 per cent below its U.S. counterpart.[17]

The poor performance of Canadian manufacturing productivity is commonly attributed to inefficient production practices such as sub-optimal plant size, short production runs and excessive product diversity, and lack of sufficient competition. The failure of Canadian manufacturing sectors to achieve necessary plant and product-specific scale economies is seen as the direct

result of the small Canadian market and the relatively large tariff protection enjoyed by Canadian manufacturers. Therefore, it is argued that freer Canada-U.S. trade, by opening up a much larger market and fostering competition, will provide opportunities to Canadian manufacturers to take advantage of scale economies and specialization and improve their productivity, contributing to improvements in aggregate productivity and real incomes in Canada.

Under free trade, Canadian manufacturing could benefit from three main types of scale economies: industry size economies, plant-scale economies (rationalization) and product specialization. Industry size economies measure the reduction in average costs due to increases in the level of industry output. The important sources of industry size economies include cost savings associated with bulk purchases of materials and advertising, economies of specialization and mass resources, superior organization of production process, and the like.

In addition to economies of industry size, free trade could significantly improve productivity by inducing changes in the structure of manufacturing industries. The Canadian manufacturing industry includes a large number (close to 70 per cent) of small and suboptimal plants operating with above averages unit costs. Removal of tariff barriers through increased import competition would force Canadian manufacturing firms to rationalize their operations and reduce their average costs. Increased domestic

competition would reduce the number of suboptimal plants through mergers and take-overs. In other words, free-trade-induced restructuring would likely lead to an increase in the average plant size in manufacturing and help Canadian manufacturers reap the benefits of plant-scale economies. The size of potential gains in total factor productivity (reduction in average cost) due to restructuring (rationalization) in any given manufacturing industry depends upon the number of suboptimal plants, their share in the industry's total output, and the sensitivity of plant-specific average costs to changes in plant size.

Productivity Estimates

Our review of the empirical estimates of industry scale parameters for 20 two-digit manufacturing industries indicates only slightly increasing returns to scale to industry size (industry size economies) in the Canadian manufacturing sector after a free-trade agreement with the United States. At the aggregate level, these results suggest a range of 0.95 to 1.06 for the scale parameter, with a median of about 1.03, indicating marginally increasing returns to industry size. This finding of only marginal aggregate productivity gains from increases in industry size is also true for individual manufacturing industries. The scale parameter estimates vary within a narrow range of 1.0 to 1.10 (see Table 8).

As mentioned before, close to 70 per cent of all plants in the Canadian manufacturing industries are below the minimum efficient scale (MES) levels. These plants account for only 20 per cent of total industry output and operate with quite high average costs (see Table 8). Therefore, the gains in economic efficiency from rationalization (restructuring of industry through consolidation of the small plants) could be significant, even if the gains from industry size economies turned out to be small. The available estimates suggest that if all the suboptimal plants were to operate at the minimum efficient scale level, total unit costs could, on average, decline by 3.8 per cent in the manufacturing sector (see Table 8). Since the manufacturing sector's gross output accounts for over 60 per cent of GNP, the gains in GNP and real income from this source alone, even without accounting for any favourable indirect effects, could be over 2.0 per cent.

Naturally, these cost savings would not occur overnight, but rather over a period of time in which substantial adjustment and plant modernization would occur. One important qualification must, however, be made here. Even when some plants are operating at suboptimal (higher cost) size levels, this does not necessarily mean that they are inefficient. They may be producing more customized or specialized products than the lowest-cost firms in the industry -- products that meet a more limited demand. In such cases of 'product niche-finding', one would not always expect plants to expand under free trade.

Table 8

Average Cost Saving from Rationalization in Canadian Manufacturing Industries (Based on 1979 data)

	Scale[1] parameter	Total number of plants	Suboptimal production (1979) [per cent of total production][2]	Proportion of suboptimal plants (per cent)	Average cost disadvantage due to suboptimal production (per cent)	Productivity estimate (per cent)
Food and beverages	1.19	4,795	26.76	69.2	4.16	8.9
Tobacco products	1.00	26	--	--	0.00	0.0
Rubber and plastics	1.01	999	8.41	61.4	1.15	1.5
Leather	1.04	447	27.40	68.0	3.28	4.6
Textiles	1.03	967	15.08	42.0	3.59	5.0
Knitting mills	1.04	281	22.13	55.7	2.24	2.9
Clothing	1.02	2,179	38.16	69.0	2.75	3.6
Wood Products	1.02	3,208	21.33	76.2	3.49	4.9
Furniture and fixtures	1.03	2,190	22.78	74.4	3.73	4.4
Paper and allied industries	1.10	732	56.89	42.6	6.73	9.7
Printing and publishing	1.01	4,093	37.98	93.7	5.08	4.8
Primary metals	1.00	441	12.27	25.5	1.03	1.5
Metal fabricating	1.04	4,862	19.46	69.8	3.79	4.7
Machinery	1.00	1,491	19.16	81.0	2.50	3.8
Transportation equipment	1.00	1,216	1.43	13.4	5.10	11.0
Electrical products	1.06	1,076	33.89	76.0	6.94	9.1
Nonmetallic mineral products	1.08	1,566	29.86	71.4	5.53	6.2
Petroleum and coal products	1.02	108	--	--	1.00	5.9
Chemical and chemical products	1.02	1,212	17.15	62.9	2.15	3.2
Miscellaneous manufacturing	1.05	2,693	15.21	75.1	6.61	8.5
Weighted 2-digit industry average	1.06	34,578	19.65	69.3	3.81	6.1

1 Greater than 1 implies increasing returns to scale; less than 1 implies decreasing returns; and equal to 1 means constant returns to scale.
2 Per cent of total industry output produced by the suboptimal plants.
3 Based on total costs, including intermediate inputs.
4 Based on value added data (net output), total factor productivity. Only half of the potential cost savings (gross output basis) due to rationalization (Col. 3) are assumed to get realised from the Canada-U.S. free trade. These in turn are covered into value added basis by multiplying them by the ratio of gross output to value added (industry specific). For a detailed discussion of the weighting proceddures, see Hulten (1978) and Jorgensen (1980).

Source: U.S. - Canada Productivity Gap, Scale Economies and the Gains from Freer Trade: A Review Article, by P. S. Rao, Economic Council of Canada (Mimeo).

The considerable inter-industry variations in potential productivity gains and the marked variations in the numbers of optimal and suboptimal plants within each industry imply considerable adjustment problems for weak industries and those with large numbers of inefficient plants. This is particularly true for such nondurable manufacturing industries as paper and allied products, printing and publishing, miscellaneous manufacturing, and food and beverages. These industries contain a large proportion of small and inefficient plants, and the estimated percentage of cost savings due to their rationalization is well above the average for manufacturing as a whole. For example, in the printing and publishing industry, almost 94 per cent of all existing plants, accounting for 38 per cent of the industry's output, are below the minimum average cost scale, suggesting that substantial restructuring would be possible.

The rationalization of an industry takes time, and it often causes pain to those communities or workers facing a plant shutdown. Fortunately, the majority of plants need not shut down. Rather, through new management or new investment (or both) they could revitalize, strengthen, and expand their output and sales. Moreover, the Canadian manufacturing sector, whatever its relative productivity vis-Ã-vis U.S. manufacturing, is very dynamic. Each year, on average, between 2,000 and 3,000 new plants are opened up, while almost as many are merged or closed down. Generally speaking, plant births exceed plant deaths [see ECC (1988)].

Trade liberalization, by promoting domestic competition, could further reduce the productivity and real income gap in a number of other important ways: by speeding up the reallocation of resources from declining to growing industries, encouraging faster adoption of new technology, and increasing the flexibility of markets.

Factors Not Modelled

So far we have discussed the likely impact of FTA on tariffs, NTBs, government procurement, and manufacturing productivity. These estimates will in turn be used to simulate the impact of FTA on the Canadian economy. But it is important to note that many of the provisions of the free trade agreement cannot be quantified and incorporated into the model. Consequently, our simulation results will not capture the impact of these provisions on the Canadian economy. Here we briefly describe most of the non-quantifiable aspects of FTA and indicate their likely effect in Canada. A detailed examination of various provisions of the free trade agreement by major sector and their likely impact in Canada is given in Section 4.

FTA provisions in agriculture, energy, foreign direct investment and services (including financial services), in combination with the dispute settlement mechanism, should provide a more secure and more open access to the U.S. market in future (see Section 4). It is generally agreed that future improvements in access to the

U.S. market will significantly reduce uncertainty for the business community and increase investor confidence in the Canadian economy, increasing both foreign and domestic investment in Canada.

We are unable to 'model' the following important aspects of FTA:

- Removal of tariff barriers in agri-food industries will intensify competition in the Canadian food processing industries. Unlike their U.S. counterparts, Canadian food processors buy their material inputs from higher cost Canadian marketing boards than the market determined prices. Increased import penetration under FTA is expected to induce Canadian food processors to lobby hard for an overhaul of Canadian supply management programs, and for a gradual move towards market-determined agricultural prices. Improved working of agri-food industries, induced by import competition, could lower prices for consumers (see Section 4 - agriculture);

- The energy provisions of the free trade agreement assure a more secure and open access to the large U.S. market for Canadian exports of oil, natural gas, uranium, potash and hydro electricity in future. Security of access to the U.S. market could reduce uncertainty associated with future demand for energy products and thus could significantly increase investment in the energy sector (see Section 4, energy).

- The provisions of national treatment, and the right of establishment in service sectors in conjunction with temporary access to each other's market (freer movement of business people between the two countries) could provide substantial new market opportunities for Canadian service firms in the U.S. In addition, increased competition from U.S. service firms could improve the efficiency of service sectors in Canada and result in lower prices and better service to Canadian consumers (Section 4 - services);

- Removal of barriers to trade and investment in financial services could improve the quality of service, increase consumer choice, and reduce the spread between interest rates on loans and deposits (Section 4 - financial services);

- The raising of thresholds for purposes of reviewing U.S. acquisitions of Canadian businesses and the provision of national treatment to each others' investment could make the Canadian market significantly more attractive to U.S. investors and increase U.S. investment in Canada;

- Removal of duty remission programs in the automobile industry coupled with the restriction of Auto Pact benefits primarily to the Big-Three companies under FTA could discourage new overseas auto investment in Canada, especially if the present Canadian cost advantage is not maintained. Small parts manufacturers, supplying primarily to the aftermarket parts,

will be forced to restructure their operations and become competitive. Similarly, Canadian heavy truck facilities are presently not competitive and face the threat of a production shift to the United States (see Section 4, autos).

In summary, we are unable to 'model' many of these important provisions of the Canada-U.S. free trade agreement. On balance, however, our analysis suggests that the net impact of these non-quantifiable factors on the Canadian economy could be positive and significant. Therefore, our simulation results are likely to underestimate the agreement's beneficial impacts on the Canadian economy.

SECTION III

Design of the Free Trade Scenarios

Using our estimated impacts of the FTA on tariff and non-tariff barriers in the two countries, the agreement's implications for federal government procurement policies for Canadian exports and imports, and the potential gains in manufacturing productivity due to scale economies and rationalization presented in the previous section, we have designed the following two basic bilateral free trade scenarios. The purpose is to assess the transitional (1989-98) as well as the longer-term impacts of the Canada-U.S. free trade agreement on the Canadian economy.

Simulation 1: the first scenario examines the impact of removing trade barriers on trade in goods between Canada and the United States, agreed to under the FTA, on the Canadian economy;

Simulation 2: in the second scenario, removal of trade barriers is supplemented by industry-specific productivity improvements in twenty Canadian manufacturing industries. No changes were made to productivity in primary, construction or service industries.

As in Discussion Paper No. 331, both scenarios are carried out with CANDIDE Model 3.0 under the flexible exchange rate regime. Like our earlier study, the base case projection assumes no changes in trade policy beyond those currently scheduled. In the

base case projection, the unemployment rate gradually declines from the current level to the 6.6 per cent range. Inflation (CPI) averages about 3.5 per cent over the projection period.

As before, the new simulations do not incorporate the economic impact of the removal of subsidies in the two countries. (The free trade agreement, at least for now, does not deal with producer subsidies.) For a detailed discussion of the level and the structure of business subsidies in both countries, see Magun, Rao, and Lodh (1987).

As in our earlier study, the money supply is assumed to respond to changes in nominal GNP and interest rates in both scenarios. The Bank of Canada is assumed to allow nominal interest rates to vary with inflation expectations. In other words, real interest rates are assumed to remain constant at the base case levels. In CANDIDE Model 3.0, the exchange rate (US$/CAN$) appreciates in response to reductions in inflation expectations and increases in the basic balance (the sum of current and capital account balances) and vice-versa. Real short-term interest rate differentials also play an important role in determining the exchange rate.

The federal government revenue shortfall due to the removal of Canadian custom duties is offset by increased personal income taxes, so that the federal government deficit does not rise over

the base case levels in the two free trade scenarios. This restraint is imposed in order to isolate the pure trade effect.

As in Discussion Paper No. 331, the impact of FTA on wages, prices, and the exchange rate is endogenously determined in the model. In the CANDIDE model, final demand prices, including the Consumer Price Index, are derived as weighted sums of import prices and value-added prices (domestic), where the weights are determined by the import content of the commodity in question. But in the CANDIDE model the weights also vary in response to changes in import prices relative to domestic prices. The reduction in tariff barriers is thus fully passed on to consumers and producers in the form of lower import prices within three years.

However, in the CANDIDE model there is no direct relationship between import prices and domestic sector prices (GDP deflators). These last are mainly influenced by sector-specific wage rates, productivity, the capacity utilization rate proxy, and the labour market tightness variable (the primary male unemployment rate). Consequently, in the two free trade simulations, sector prices decline over time in response to reductions in inflation expectations, exchange rate appreciation, and productivity improvements. Hence, in the model, any change in the differential between the import prices and domestics sector (output) prices increases the share of imported goods, worsening the current account balance. In contrast, under the law-of-one-price (price

taker assumption), domestic (output) prices respond fully (100 per cent) to changes in import prices. Consequently, our free trade impacts on prices, real income and employment are expected to be smaller than under the law-of-one-price assumption.

Similarly, the impact of FTA on investment expenditure is endogenously determined. In the CANDIDE Model 3.0, investment expenditures on both structures and machinery and equipment (M&E) respond to changes in output, capacity utilization, the real interest rate, profitability (the ratio of output price to input costs), and investment incentives. In addition, removal of tariff barriers will lower the cost of imported machinery and equipment relative to output price and stimulate investment in machinery and equipment (M&E). In the CANDIDE Model, investment expenditure (induced investment) is thus fairly sensitive to changes in economic conditions. However, the CANDIDE Model is not capable of capturing free-trade-related changes in autonomous investment, due to faster adoption of new technology, modernization of plants and equipment, third party investment, increased investor confidence, and the like.

Removal of Trade Barriers

The removal of Canadian Post-Tokyo Round tariffs and the non-tariff barriers (tariff equivalents) displayed in Tables 3, 4, and 5 is achieved by adjusting the corresponding export and

import prices in the model, weighted by the U.S. shares in total exports and imports (commodity specific).

The removal of U.S. Post-Tokyo Round tariffs and the non-tariff barriers recorded in Tables 3, 4 and 5 is introduced into the model by adjusting export volumes. Percentage changes in export volume are computed by multiplying the per cent changes in export prices implied by the changes in tariffs and non-tariff barriers by the export price elasticities. These changes in turn are multiplied by the base case export volumes to compute level changes in export volume (constant adjustments). In most of the cases, CANDIDE export price elasticities are used. In a few cases where CANDIDE elasticities take on extreme values (either too large or too small), we have constrained them to unity.

Liberalization of federal government procurement practices in the two countries under FTA is introduced by adjusting the volume of imports and exports (commodity specific) according to the estimates shown in Table 7.

Productivity Improvement Adjustment

Estimates of potential cost savings (total factor productivity improvements) due to rationalization in the twenty manufacturing industries, based on total cost data (gross output), are displayed in Table 8, column 5. However, actual cost savings (productivity

improvements) in manufacturing due to restructuring could be less than the potential gains, for the two following reasons:

First, these estimates are based on 1979 census data. Since then, high real interest rates, a severe recession in 1981-82 and the weak recovery thereafter, and increased competition from imports have forced a great number of companies to rationalize their operations, implying that some of the estimated gains in productivity due to scale economies and rationalization may already have been realized or would be realized over the base case period irrespective of Canada-U.S. free trade. Second, due to the rapid pace of technical change in communications and electronic media and a rapid growth in product innovations, plant size is becoming less important in productivity enhancement.

Estimates were developed of the potential productivity gains from plant rationalization in each industry, associated with a Canada-U.S. free trade agreement that eliminated all tariff barriers. In view of the above considerations, only half of the potential cost savings due to rationalization are assumed to be realized from Canada-U.S. free trade. The productivity gains range from a high of 11 per cent for transportation equipment to a low of 0 per cent for the tobacco products industry (last column of Table 8). For manufacturing as a whole, the estimate of potential productivity gains for the manufacturing industry, weighted according to industry output, comes to 6.1 per cent (based on the value-added concept), over the period of adjustment.

On an annual basis this would raise the rate of productivity growth in the manufacturing sector from the recent average of 3 per cent to about 3.6 per cent.

Simulation Results: Longer-Term Impacts

Using our estimates of the impact of FTA on the removal of trade barriers between the two countries and sector-specific manufacturing productivity improvements, as presented in Section II, we have simulated the longer-term impact of Canada-U.S. free trade agreement on output and employment by sector and by province in Canada.

In Discussion Paper No. 331, the base case is extended only up to 1996, whereas under FTA tariff barriers in both countries are phased out over 10 years, starting in 1989. Consequently, by 1996 only about 80 per cent of all Canadian tariffs will have been removed. Therefore, longer-term impacts of FTA comparable to the results reported in Discussion Paper No. 331 will not be realized before the year 1998. Of course, the pace of improvements in real GNE and employment from free trade will also depend on the speed with which productivity improvements will be realized.

To get around the problem of computing longer-range impacts, we have used the same procedure as in Discussion Paper No. 331. In Simulation 1, all the tariff barriers are removed at once as of 1987, to allow the model enough time to digest all the impacts of

FTA and exhibit the equilibrium impacts (longer-term impacts) by the end of the simulation period (1996). Similarly, in Simulation 2 all the productivity improvements are assumed to occur at once as of 1987. However, it should be pointed out that the full (longer-term) impacts of FTA on the Canadian economy would occur only around year 1998. The actual impact of the free trade agreement during the first five years of implementation would be substantially lower than the longer-term impacts in the scenarios because of the FTA phasing-in provisions.

The longer-term results show that the free trade agreement will generate additional output, employment, and real income, and that these benefits will be distributed fairly uniformly across all regions. However, the size of the gains from FTA depends on the ability and willingness of Canadian manufacturers to take advantage of substantial new market opportunities and to rationalize their operations and improve their efficiency -- that is, on the extent of productivity improvements.

Aggregate Results

The longer-term macro-economic effects of the Canada-U.S. free trade agreement are summarized in Tables 9 to 11. These results suggest that the free trade agreement will lower prices, stimulate investment and productivity, increase real wages, give a boost to output and employment, and strengthen the Canadian dollar in both scenarios (SIM.1 and SIM.2).

Table 9

Longer-Term (1998) Macroeconomic Effects of Canada-U.S. Free Trade: Major Indicators

Indicator	D.P. #331	New Results
	(Per cent difference)	
GNE (1981 $)		
SIM 1	1.6	0.7
SIM 2	3.3	2.5
CPI (Index)		
SIM 1	-3.6	-3.3
SIM 2	-5.7	-5.5
Productivity (GNE per person employed)		
SIM 1	0.2	0.2
SIM 2	0.7	0.7
Real wage rate (per person-hour)		
SIM 1	1.9	1.0
SIM 2	3.0	2.3
Real disposable income		
SIM 1	1.7	0.7
SIM 2	3.1	2.3
Investment Expenditure (1981 $)		
SIM 1	4.0	2.2
SIM 2	7.0	5.0
	(Level difference)	
Employment (thousands)		
SIM 1	189	76
SIM 2	350	251
Labour force (thousands)		
SIM 1	82	32
SIM 2	154	115
Unemployment rate (per cent)		
SIM 1	-0.6	-0.3
SIM 2	-1.3	-0.9
Total government balance ($ billions)		
SIM 1	3.2	-0.9
SIM 2	5.2	2.5
Current account balance ($ billions)		
SIM 1	-3.0	-4.1
SIM 2	-4.0	-5.0

Source CANDIDE Model 3.0, January 1988.

Table 10

Percent Change in Final Demand (Real Terms), Longer-term (1998)

	Simulation 1		Simulation 2	
	D.P. #331	New results	D.P. #331	New results
Consumer expenditures	2.2	1.1	4.1	3.0
Government expenditure on goods and services	-0.1	-0.1	-0.1	-0.2
Capital formation	4.0	2.2	7.0	5.0
Exports of goods and Services	1.5	0.9	2.7	2.2
Imports of goods and services	3.6	2.3	4.9	3.9
GNE	1.6	0.7	3.3	2.5

Source: CANDIDE Model 3.0, January 1988.

Table 11

Response of Wages and Prices to
Canada-U.S. Free Trade, Longer-term (1998)

	D.P. #331	New Results
	(Per cent Difference)	
Import price (index)		
SIM 1	-7.0	-5.6
SIM 2	-7.5	-6.3
CPI (index)		
SIM 1	-3.6	-3.3
SIM 2	-5.7	-5.5
GDP deflator (index)		
SIM 1	-2.4	-2.7
SIM 2	-5.1	-5.4
Unit labour costs		
SIM 1	-2.2	-2.5
SIM 2	-3.5	-4.2
Hourly wage rate		
SIM 1	-1.7	-2.3
SIM 2	-2.7	-3.2
Real wage rate (per person-hour)		
SIM 1	1.9	1.0
SIM 2	3.0	2.3
Exchange rate ($ U.S./$ Can.)		
SIM 1	4.2	3.2
SIM 2	4.8	4.0

Source: CANDIDE Model 3.0, January 1988.

Removal of trade barriers (mostly tariffs) in the two countries implies, on average, about a 4 per cent reduction in import prices. Lower prices for imported goods will translate into lower prices for consumers and lower input costs for Canadian producers. Lower consumer prices will give a boost to real wages. However, part of that wage increase would be offset by increased personal income taxes, to cover the loss in tariff revenue.

Lower final demand prices (consumption and investment prices), due to lower import prices, coupled with productivity improvements, would set in motion a "virtuous cycle" of wage-price reduction and exchange rate appreciation (see Table 11). As a result, under FTA, both prices in general and consumer prices in particular would be significantly lower over the longer term than would be the case than without free trade. For example, the bilateral removal of trade barriers (mostly tariffs) will reduce the consumer price index by 3.3 per cent by year 1998 (SIM.1). In addition, if free trade is accompanied by productivity improvements, due to scale economies and rationalization, the CPI will decline by 5.5 per cent, thus providing a strong stimulus to real wages and real incomes (SIM.2, Table 5).

The removal of trade barriers would increase both exports and imports. However, since on average Canadian tariffs are higher than American, imports will rise more than exports. Furthermore, over the longer term, increases in real activity and the associated strength in consumer expenditure and investment would

accelerate the growth in imports and increase current account imbalance. For instance, over the longer term imports would increase by 3.9 per cent, compared to a 2.2 per cent increase in exports (see SIM.2 in Table 10). The reduction in net exports (worsening of the current account balance) implies a 0.6 per cent reduction in real GNE (see Tables 9 and 10). But the rise in consumer expenditure and business investment resulting from improvements in real income and lower costs of imported M&E will more than offset reductions in net exports, thereby increasing both output and employment.

Improvements in real disposable income and a reduction in the personal savings rate, caused by lower inflation and lower unemployment, explain the stimulus to consumer expenditure. For example, in Simulation 2 the consumer expenditure is 3.0 per cent above the base case (see Table 10).

Increased economic activity, lower costs for imported machinery and equipment (M&E), increased capacity utilization rates and improved cash flow should also significantly increase business investment. In Simulation 2, capital formation would increase by 5.0 per cent (see Table 10).

In summary, our simulation results show that the free trade agreement with the U.S. would significantly increase output and employment in Canada over the longer term. The agreement would increase real GNE by about 2.5 per cent and increase employment by

1.8 per cent by year 1998. However, without improvements in manufacturing productivity, the stimulus to output, employment, and real income from FTA would be substantially lower. For example, in Simulation 1, the increases in output and employment are only about 30 per cent of the gains in Simulation 2 (see Table 9).

We ran other simulations tracking the transitional impacts of free trade. The impact of FTA on the Canadian economy would be fairly small in the short-to-medium-term, compared to the longer-term impacts discussed earlier. In addition, the stimulus to real GNE over the first five years of FTA would be higher than the stimulas to employment.[20]

Why should the transitional impacts be small? First, the removal of tariff barriers in both countries is gradual and phased in over 10 years, starting in 1989. For example, by 1993 only about 65 per cent of the Canadian and the American tariffs will have been reduced. Consequently, the positive impact of FTA on prices and real wages, and hence on output and employment, will develop gradually. Second, most of the beneficial impact of the removal of NTBs on the Canadian economy will occur after 1990. Third, as mentioned before, the rationalization response in manufacturing will build over time. Finally, the full impact of productivity on prices, real income, consumer expenditure, investment, and employment will be gradual, because of the significant lead-lag relationships between these variables. For

example, the full impact of changes in output on employment would be felt in about 3 years.

In summary, the beneficial impacts of FTA on output, employment and real income over the longer-term would be significant. However, the short-to-medium term impacts would be fairly small because of the gradual staging of tariff reductions and the productivity improvements.

Output and Employment Effects by Industry

Canadians are not concerned only with the aggregate effects of the Canada-U.S. free trade agreement; they are also concerned about its potential effects on individual industries and regions. By linking the aggregate results from CANDIDE 3.0 to the Statistics Canada Input-Output Model, we have estimated the longer-range effects (through the year 1998) of Canada-U.S. free trade on output and employment by industry. The industrial distribution of the aggregate changes in output and employment from bilateral free trade is shown in Tables 12 to 15.

In Simulation 2, the impact of bilateral free trade on output and employment will be positive and significant (SIM.2, Tables 12 and 13), with primary industries, construction, and service sectors accounting for close to 90 per cent of the gains in output and employment in Simulation 2. Employment in the service sectors will expand at a healthy pace in response to increased domestic

Table 12

Impact of Canada-U.S. Free Trade Agreement on Gross Domestic Product, by Industry, Long-Term Solution (Simulation 2)

		Net Change in GDP	Percent Change
	Positive Impacts	(Millions of 1981 $)	
	Construction	2070	6.76
	Finance, Insurance and R. E.	1801	3.84
	Retail Trade	1357	3.96
	Wholesale Trade	790	2.97
	Transportation and Storage	708	2.13
	Amusement and Recreation	656	2.97
	Food and Accomodation	586	4.06
	Printing and Publishing	421	7.76
	Utilities	406	2.21
	Food and Beverage	376	3.20
	Primary Metals	337	5.17
	Agriculture	327	2.23
	Health and Education	306	2.95
	Mining Services	289	8.42
	Business Services	171	4.95
	Personal and Other Services	126	0.81
	Mineral Fuels	114	0.67
	Wood Products	113	2.18
	Paper Products	86	0.85
	Metal Fabricating	85	1.35
	Non-Metal Minerals	79	2.72
	Machinery	66	0.91
	Clothing	47	2.19
	Transportation Equipment	36	0.33
	Forestry	35	1.09
	Communications	28	0.19
	Non-Metal Mines	17	0.89
	Furniture and Fixtures	15	1.13
	Metal Mines	13	0.29
	Fishing, Hunting, Trapping	10	1.17
	Petroleum and Coal	9	1.28
	Tobacco Products	1	0.12
	Sub-Total	7610	
	Negative Impacts		
**	Leather Products	-16	-3.44
**	Knitting Mills	-16	-3.48
**	Misc. Manufacturing	-31	-1.60
	Chemical Products	-50	-0.64
**	Textiles	-76	-3.29
**	Rubber and Plastic Products	-95	-2.46
**	Electrical Products	-268	-4.50
	Sub-Total	-552	
	Total	7058	2.5

** Designate negative industries in Discussion Paper No. 331.
Source Economic Council of Canada

Table 13

Impact of Canada-U.S. Free Trade Agreement on Employment, by Industry, Long-Term Solution (Simulation 2)

		Net Change in Employment	Percentage Change
	Positive Impact:		
	Retail Trade	59,626	3.11
	Construction	37,454	5.07
	Other Finance, Insurance and R.E.	30,327	3.02
	Accomodation and Food	23,607	2.12
	Business Services	19,956	1.17
	Wholesale Trade	15,720	2.34
	Other and Personal Services	10,281	0.67
	Transportation and Storage	8,753	1.77
	Printing and Publishing	8,422	6.08
	Agriculture	7,192	1.80
	Food And Beverage	6,375	2.00
	Education and Health	5,859	3.46
	Mining	4,984	1.69
	Primary Metals	4,971	2.93
	Amusement and Recreation	4,560	1.71
	Wood Products	1,963	1.64
	Elec., Power and Other Utilities	1,956	1.34
	Clothing	1,561	1.73
	Metal Fabricating	1,396	1.01
	Communications	1,163	0.43
	Non-Metallic Minerals	1,054	1.55
	Paper and Allied Products	981	0.61
	Machinery	838	0.66
	Forestry	658	0.50
	Transportation Equipment	584	0.30
	Furniture and Fixtures	456	0.91
	Fishing, Hunting and Trapping	273	0.88
	Petroleum and Coal	106	0.77
	Tobacco Products	8	0.10
	Sub-Total	261,084	
	Negative Impact:		
	Chemical and Chemical Products	-366	-0.34
**	Knitting Mills	-510	-2.64
**	Leather Products	-552	-2.06
**	Misc. Manufacturing	-913	-1.42
**	Textiles	-1,266	-2.05
**	Rubber and Plastic Products	-1,642	-1.72
**	Electrical Products	-4,535	-3.38
	Sub-Total	-9,784	
	Total	251,300	1.80

** Designate negative industries in Discussion Paper No. 331.

Source Economic Council of Canada

Table 14

Impact of Canada-U.S. Free Trade Agreement on Gross Domestic Product, by Industry, Long-Term Solution (Simulation 1)

		Net Change in GDP	Percent Change
		(Millions of 1981 $)	
	Positive Impacts		
	Construction	1159	3.79
	Retail Trade	1003	2.93
	Finance, Insurance and Real Estate	963	2.05
	Wholesale Trade	463	1.74
	Primary Metals	434	6.65
	Food and Acomodation	401	2.78
	Transportation and Storage	315	0.95
	Amusement and Recreation	305	1.38
	Health and Education	186	1.79
	Utilities	180	0.99
	Printing and Publishing	178	3.29
	Food and Beverage	145	1.24
	Business Services	126	3.66
	Agriculture	124	0.85
	Mining	120	0.44
	Personal and Other Services	82	0.53
	Wood Products	78	1.51
	Forestry	8	0.26
	Fishing, Hunting, Trapping	6	0.71
	Sub-Total	6276	
	Negative Impacts		
	Clothing	0	-0.01
	Petroleum and Coal	-2	-0.32
	Tobacco Products	-5	-0.75
**	Leather Products	-40	-8.37
	Furniture and Fixtures	-44	-3.29
	Non-Metallic Minerals	-45	-1.55
**	Knitting Mills	-57	-12.64
	Paper Products	-103	-1.01
	Communications	-162	-1.11
	Transportation Equipment	-177	-1.60
**	Misc. Manufacturing	-187	-9.70
	Metal Fabricating	-224	-3.56
	Machinery	-235	-3.26
**	Textiles	-281	-12.18
**	Rubber and Plastic Products	-364	-9.38
**	Chemical and Chemical Products	-422	-5.41
**	Electrical Products	-870	-14.61
	Sub-Total	-3218	
	Total	3058	0.60

** Designate negative industries in Discussion Paper No. 331.
Source Economic Council of Canada

Table 15

Impact of Canada-U.S. Free Trade Agreement on Employment, by Industry, Long-Term Solution (Simulation 1)

		Net Change in Employment	Percentage Change
	Positive Impact:		
	Retail Trade	32,054	1.67
	Construction	15,020	2.03
	Other Finance, Insurance and R.E.	12,743	1.27
	Accomodation and Food	11,764	1.06
	Business Services	6,882	0.40
	Wholesale Trade	6,706	1.00
	Other and Personal Services	5,104	0.33
	Primary Metals	4,636	2.73
	Transportation and Storage	2,991	0.61
	Printing and Publishing	2,585	1.87
	Education and Health	2,500	1.48
	Amusement and Recreation	2,418	0.90
	Food And Beverage	2,072	0.65
	Agriculture	1,986	0.50
	Mining	1,759	0.60
	Wood Products	974	0.82
	Elec., Power and Other Utilities	637	0.44
	Fishing, Hunting and Trapping	120	0.39
	Forestry	112	0.09
	Sub-Total	113,064	
	Negative Impact:		
	Clothing	-6	-0.01
	Petroleum and Coal	-22	-0.16
	Tobacco Products	-36	-0.42
	Non-Metallic Minerals	-579	-0.85
	Communications	-842	-0.31
	Furniture and Fixtures	-976	-1.95
**	Leather Products	-979	-3.66
	Paper and Allied Products	-999	-0.63
	Transportation Equipment	-1,188	-0.61
**	Knitting Mills	-1,364	-7.07
	Machinery	-2,026	-1.59
**	Chemical and Chemical Products	-2,828	-2.62
	Metal Fabricating	-2,889	-2.09
**	Textiles	-3,457	-5.61
**	Misc. Manufacturing	-3,735	-5.82
**	Rubber and Plastic Products	-4,468	-4.70
**	Electrical Products	-10,670	-7.95
	Sub-Total	-37,064	
	Total	76,000	0.55

** Designate negative industries in Discussion Paper No. 331.
Source Economic Council of Canada

demand. For example, four service industries - retail and wholesale trade, and commercial, personal, and business services - alone would contribute close to 65 per cent of all the new jobs (see Table 13). These substantial gains in service sector output and employment reflect the importance of services in the modern Canadian economy and the size of the indirect effects of free trade on the Canadian economy.

Within the manufacturing sector, non-durable industries would, on average, benefit more from bilateral free trade than the durable manufacturing industries. However, six of the seven trade-negative industries (all in the manufacturing sector) would be in the non-durable category, (rubber and plastics, leather, textiles, knitting mills, chemical and chemical products, miscellaneous manufacturing and electrical products). These industries are now more protected in Canada, than in the U.S., and therefore would undergo important structural adjustments. Similarly, furniture and fixtures, metal fabricating and machinery industries also get more trade protection in Canada than in the U.S. (see Table 2). But in these industries, the indirect benefits from Canada-U.S. free trade would more than offset the negative direct effects.

Wood, primary metals, and printing and publishing would benefit proportionally more than the other trade-positive manufacturing industries. The first two would benefit from the removal of U.S. NTB's on Canadian exports of shakes and shingles and steel

products (see Table 6), while the printing and publishing would benefit substantially from the positive indirect effects of free trade on real incomes and consumer expenditure.

The loss in output and employment in the seven trade negative industries would be fairly modest. For example, in Simulation 2, the total net employment reduction in these industries would be around 10,000 (see Table 13). This small job loss (in relation to the total employment of about 600,000 in these sectors and the overall net increase in employment) in turn suggests that the adjustment costs from bilateral free trade would be fairly small, relative to the overall gains in output and employment. However, to the extent that the employment losses were concentrated in depressed regions and single industry communities, free trade would exacerbate adjustment problems. On the other hand, by providing considerable real income dividends to Canadians and increasing overall net employment, Canada-U.S. free trade could facilitate the introduction of new government policies and strengthening of ongoing social programs designed to cope with the problem of plant closures and job dislocation.

Since the aggregate effects on output and employment are substantially lower without the improvements in Canadian manufacturing productivity assumed in Simulation 2, relative changes in output and employment by industry under the first scenario would be quite different from those under the second. For instance, Simulation 1, net output and employment decline in

17 of the 36 industries. Moreover, 16 of the 17 trade negative industries are in the manufacturing sector. As a result, output and employment actually decline in the manufacturing sector (SIM.1 see Tables 14 and 15). As mentioned before, the average Canadian tariffs on manufactured goods are significantly higher than the comparable U.S. tariffs. The removal of Canadian tariff barriers, without the compensating benefits of the removal of U.S. NTBs and liberalization of that country's government procurement practices and without productivity improvements by the Canadian industry, creates scope for increased U.S. import penetration. This causes the decline in output and employment shown in Tables 14 and 15. These declines are concentrated in electrical products, rubber and plastic products, miscellaneous manufacturing and textiles, all industries that are under competitive stress from technological change and Third World competition. What is notable is that as soon as we allow for a moderate amount of rationalization in order to improve relative costs, the losses in output and employment disappear in 10 industries and the declines moderate in the other seven.

Before we move on to the discussion of the provincial impacts of the FTA, we want to caution the reader that our industry results present only the aggregate picture and that these average results conceal considerable variability within any given industry. For example, in Simulation 2 there are seven trade-negative industries. But, within each of these industries there would be several winners under the FTA. In the leather industry, women's

winter boots and high-priced casual shoes could expand under free trade. In textiles, Canadian high fashion textiles and wool could benefit under the FTA. Similarly in the chemical industry, petrochemicals and fertilizers are expected to do well.

Likewise, trade-positive industries may conceal some potential losers. For example, in furniture, household furniture could face severe problems under free trade. Similarly, in food and beverages, some segments of the food processing and the winery industries could suffer losses in output and employment under the Canada-U.S. free trade agreement.

Provincial Impacts

In order to formulate appropriate regional economic development policies and assessing the distribution of adjustment costs across provinces, it is important to have an estimate of the regional impacts of Canada-U.S. free trade. For this purpose, the provincial distribution of output and employment by industry implicit in the Statistics Canada Regional Input-Output Model is used to translate the national industry effects into regional industry impacts by industry. Overall changes in output and employment by province are summarized in Tables 16 and 19 for the two free trade scenarios.

Provincial impacts are determined largely by changes in the industries located in each province. Since in SIM.2, 29 of 36

industries would gain from free trade, all provincial economies would experience increases in output and employment under a Canada-U.S. free trade agreement. Furthermore, as most of the gains would occur in service sectors and the provincial distribution of service sector output and employment is more or less similar to the distribution of overall output and employment by province, the gains from free trade would be relatively evenly distributed across all the provinces (see Tables 16 and 17).

Under the second free trade scenario, regional changes in output (measured in per cent deviation from the base case levels) vary within a narrow range of 2.3 to 2.9 per cent. British Columbia (2.6 per cent), Alberta (2.7 per cent), Saskatchewan (2.7 per cent), Manitoba (2.6 per cent), Newfoundland (2.7 per cent), Nova Scotia (2.6 per cent, New Brunswick (2.6 per cent) and, Prince Edward Island (2.9 per cent) would gain slightly more than the average gains in output (2.5 per cent). This mainly reflects the relative importance of primary industries in these provinces and the relatively larger potential gains in output and employment in these industries from the removal of U.S. trade barriers, (especially the NTBs on shakes and shingles, agriculture, and fishing). Strong gains in the construction industry would add to the stimuli to these provincial economies (see Table 16). The Atlantic Provinces would also benefit from a healthy increase in economic activity in the food and beverage industry, especially fish processing.

Table 16

Difference in Projected GDP Between the Base Case and Simulation 2 Canada-U.S. Free Trade Agreement, by Province, Long-Term Solution

	Newfound-land	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Canada(1)
					(Millions of 1981 $)						
Total difference	146	35	236	218	2,392	3,731	445	474	1,837	1,354	10,929
Primary industries	12	3	14	8	62	99	29	96	376	84	805
Manufacturing											
Durables	1	0	4	6	89	200	16	8	41	99	463
Nondurables	14	4	15	22	173	250	37	15	39	86	656
Construction	40	8	49	49	473	607	68	96	395	264	2,070
Services	78	20	154	132	1,595	2,575	295	260	985	821	6,935
					(Per cent)						
Total difference	2.70	2.88	2.61	2.57	2.46	2.31	2.63	2.74	2.74	2.64	2.50
					(Percentage Points)						
Contribution of:											
Primary industries	0.22	0.27	0.15	0.09	0.06	0.06	0.17	0.55	0.56	0.16	0.18
Manufacturing											
Durables	0.02	0.01	0.05	0.07	0.09	0.12	0.09	0.05	0.06	0.19	0.11
Nondurables	0.27	0.30	0.17	0.27	0.18	0.15	0.22	0.08	0.06	0.17	0.15
Construction	0.73	0.64	0.54	0.58	0.49	0.38	0.40	0.55	0.59	0.51	0.47
Services	1.43	1.66	1.70	1.56	1.64	1.59	1.75	1.50	1.47	1.60	1.59

1 Includes Yukon and the Northwest Territories.
Source Economic Council of Canada

Table 17

Difference in Projected Employment Between the Base Case and Simulation 2, Canada-U.S. Free Trade Agreement, by Province, Long-Term Solution

	Newfound-land	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Canada(1)
					(Number of persons)						
Total difference	4,029	899	6,679	6,095	58,077	94,845	11,747	8,579	30,584	28,886	251,193
Primary industries	229	115	554	247	1,531	2,917	503	1,013	3,996	1,673	13,106
Manufacturing											
Durables	12	0	124	181	1,546	2,455	204	86	416	1,704	6,727
Nondurables	398	81	252	373	3,045	4,727	733	329	892	1,267	12,098
Construction	872	218	1,145	1,036	8,668	11,176	1,581	1,527	7,142	4,034	37,454
Services	2,517	484	4,605	4,258	43,287	73,570	8,726	5,625	18,139	20,208	181,808
					(Per cent)						
Total difference	1.95	2.02	1.88	1.93	1.75	1.70	1.97	1.93	2.08	1.83	1.80
					(Percentage Points)						
Contribution of:											
Primary industries	0.11	0.26	0.16	0.08	0.05	0.05	0.08	0.23	0.27	0.11	0.09
Manufacturing											
Durables	0.01	0.00	0.03	0.06	0.05	0.04	0.03	0.02	0.03	0.11	0.05
Nondurables	0.19	0.18	0.07	0.12	0.09	0.08	0.12	0.07	0.06	0.08	0.09
Construction	0.42	0.49	0.32	0.33	0.26	0.20	0.27	0.34	0.49	0.26	0.27
Services	1.22	1.09	1.30	1.35	1.31	1.32	1.46	1.26	1.23	1.28	1.30

1 Includes Yukon and the Northwest Territories.
Source Economic Council of Canada

In contrast, Quebec (2.5 per cent) and Ontario (2.3 per cent) would experience slightly less than average gains in output, because these two provinces have relatively more manufacturing than the others. More than three-quarters of the country's total manufacturing sector output is accounted for by these two provinces. Since all trade-negative industries are in the manufacturing sector, these two provinces would experience most turnover in employment, but they would also receive a high proportion of the output and employment gains.

Provincial employment impacts reflect mainly the effects on output. Like changes in output, variations in employment changes across provinces would be very small (between 1.7 to 2.0 per cent for the second scenario). Likewise, the provincial distribution of gains in employment is very similar to the distribution of output effects (see Tables 16 and 17).

However, if trade liberalization were not accompanied by improvements in manufacturing productivity, the benefits from free trade would be substantially lower in all provinces, because of the absence of substantial positive effects of productivity improvement on prices, real incomes, consumer expenditures and investment. In addition, the variation in provincial distribution of gains in output and employment would be somewhat greater than in the second scenario because trade-negative industries are primarily concentrated in Ontario and Quebec.

Employment and Adjustment

Bilateral free trade with the U.S. would create many more jobs in Canada than it would eliminate (see Table 18). Because of bilateral free trade, 187,800 jobs would be lost, while 439,000 jobs would be created for a net gain of 251,300 jobs over a period of ten years. This amounts to approximately a 2:1 ratio of jobs created to jobs lost. There are proportionately more jobs being lost in the manufacturing sector, this sector accounts for approximately 41 per cent of the job losses, while 49 per cent would occur in the service sector, 9 per cent in the primary sector and 1 per cent in construction. Job gains, however, would be distributed differently across various industries. The manufacturing sector would generate only 22 per cent of the total jobs created, while the service sector would provide 62 per cent, the primary sector 7 per cent, and construction 9 per cent.

Since the changes would be expected to take place over a ten year period, we estimate that, on an annual basis, 18,800 jobs would be lost through permanent layoff and 43,900 jobs would be created as a result of a comprehensive free trade accord. These annual figures are small relative to the normal labour turnover of four to five million job changes taking place during any given year. In other words, it is estimated that less than 2 per cent of the permanent displacement in any one year would be due to the free trade agreement. Thus, it would appear that most trade-related job shifts could easily be absorbed by the Canadian

Table 18

Projected Employment Flows Resulting from the Canada-U.S. Free-Trade Agreement (Simulation 2), by Industry, Canada, 1998

	Jobs created	Jobs lost	Net job gains
	(Thousands)		
Primary sector:			
Agriculture	10.9	3.8	7.2
Forestry	6.8	6.2	0.7
Fishing, hunting, and trapping	1.6	1.3	0.3
Mining	10.4	5.5	5.0
Total	29.8	16.7	13.1
Manufacturing sector:			
Food and beverages	13.0	6.6	6.4
Tobacco products	--	--	--
Rubber and plastics products	2.4	4.1	-1.6
Leather products	0.2	0.8	-0.6
Textiles	0.7	2.0	-1.3
Knitting mills	--	0.5	-0.5
Clothing	4.4	2.8	1.6
Wood products	8.3	6.3	2.0
Furniture and fixtures	2.2	1.7	0.5
Paper products	5.4	4.5	1.0
Printing and publishing	10.7	2.2	8.4
Primary metals	9.4	4.4	5.0
Metal fabricating	7.9	6.5	1.4
Machinery	8.2	7.3	0.8
Transportation equipment	14.2	13.7	0.6
Electrical products	1.0	5.5	-4.5
Nonmetallic minerals	2.7	1.7	1.1
Petroleum and coal	0.4	0.3	0.1
Chemical products	2.5	2.9	-0.4
Miscellaneous	1.4	2.3	-0.9
Total	95.0	76.1	18.9
Construction	39.6	2.2	37.5
Service sector:			
Transportation and storage	16.2	7.4	8.8
Communications	2.9	1.7	1.2
Utilities	4.6	2.6	2.0
Wholesale trade	25.7	10.0	15.7
Retail trade	68.2	8.6	59.6
Finance, insurance, and real estate	38.1	7.8	30.3
Business services	60.4	40.4	20.0
Health and education	6.1	0.3	5.9
Amusement and recreation	5.7	1.2	4.6
Food and accommodation	27.8	4.1	23.6
Personal and other services	19.0	8.7	10.3
Total	274.7	92.8	181.8
All sectors	439.1	187.8	251.3

Source Economic Council of Canada, March 1988.

labour market. But workers displaced in trade-declining sectors such as rubber and plastics, leather, textiles, knitting mills, electrical products, chemical products, and miscellaneous manufacturing would undoubtedly have greater adjustment problems, particularly if their skills were tied to their jobs and to the sector in which they work. People with low educational attainment or workers from small urban or rural settings would undoubtedly be affected.

Most of the net jobs created would be in service sector occupations such as clerical, sales, service and managerial. The distribution of employment gains from free trade by sex is similar to the male-female distribution in current total employment (see Table 19).

Comparison With Earlier Estimates

The simulated impacts of the FTA on output and employment under the two scenarios are substantially lower than the results reported in Discussion Paper No. 331. For instance, in Simulation 2 the new employment and output gains are only about 70 to 75 per cent of those reported in our earlier study (see Table 9). As mentioned earlier, these lower aggregate effects (especially in Simulation 1) in turn changed somewhat the distribution of gains in output and employment by industry and by province.

Table 19

Projected Net Jobs Created as a Result of the Canada-U.S. Free-Trade Agreement (Simulation 2), by Occupation and Sex, Canada, 1998

	Both sexes	Female	Male
		(Thousands)	
Managerial and administration	16.7	4.4	12.3
Natural sciences	4.3	0.7	3.6
Social sciences	1.8	1.0	0.8
Religion	0.4	0.1	0.3
Teaching	5.9	3.5	2.4
Medicine and health	6.6	5.0	1.6
Art and literary	4.4	1.7	2.7
Clerical	51.8	41.6	10.2
Sales	43.2	18.5	24.7
Service	36.5	22.0	14.5
Farming	8.4	1.7	6.7
Fishing	0.4	--	0.4
Forestry	0.6	--	0.6
Mining	2.1	--	2.1
Processing	6.8	1.2	5.6
Machining	3.5	0.1	3.4
Product fabrication	12.4	0.8	11.6
Construction	28.1	0.4	27.7
Transportation equipment	5.7	0.3	5.4
Materials handling	4.0	0.8	3.2
Other crafts	4.5	1.1	3.4
Not classified	3.0	0.4	2.6
All occupations	251.3	105.5	145.8

Source Economic Council of Canada, March 1988

What factors account for this seemingly large discrepancy between the two sets of results? Recall that in our earlier study, we simulated a hypothetical, comprehensive bilateral free trade between Canada and the United States. In our earlier simulations, all the existing trade barriers (except subsidies) between the two countries were assumed to be removed. But under FTA, as shown in Section , most of the existing NTBs remain intact. Our calculations suggest that only about 25 per cent of the existing NTBs are removed under the free trade agreement (see Table 5). Similarly, the agreement in federal government procurement is substantially smaller in scope than the one assumed in Discussion Paper No. 331 (see Table 7). Therefore, the differences in the two sets of results are entirely due to differences in assumptions about NTBs and the federal government procurement policies. Our calculations suggest that about 60 per cent of the difference in aggregate output and employment effects in the two scenarios is due to a more limited agreement in NTBs than the one anticipated in Discussion Paper No. 331, while the remaining 40 per cent is due to differences in assumptions about federal government procurement policies.

However, our estimate of the longer-term gain in aggregate output under FTA (SIM.2) is similar to that of the Department of Finance (1988). Similarly, in both studies output gains are fairly evenly distributed (in per cent terms) across provinces.

Longer-Term Impacts of the FTA: Risks

So far we have discussed the longer-term impact of FTA on output and employment by industry and by province. However, as indicated before, the size of the free trade impacts critically depends on the nature of our assumptions about the FTA and the structure and the properties of the model used to simulate these impacts. Therefore, it is useful to discuss some of the possible important upside and downside risks to these longer-term impacts.

Upside Risks

The following considerations suggest that the size of the estimated longer term impacts of bilateral free trade on output, employment, and real income could be somewhat pessimistic, compared to Simulation 2 results discussed above.

1. Bilateral free trade between Canada and the United States, by increasing market opportunities to Canadian firms and providing liberalized and more secure access to the large U.S. market, will likely encourage a significant amount of rationalization, product specialization, and modernization in Canadian industries. To carry out these structural changes, Canadian companies would have to significantly increase investment in both structures and machinery and equipment. In addition, increased investor confidence, also due to improved access to the U.S. market, could substantially increase investment over the medium term, especially

in oil and gas, and utilities (hydro) industries. Furthermore, the Canada-U.S. free trade agreement could significantly increase third country investment in Canada. Overseas producers might find it attractive to set up manufacturing plants in Canada especially if costs and exchange rate conditions were favourable, to supply the whole North American market from Canada.[18]

But, as mentioned before, the CANDIDE Model captures only changes in induced investment in response to changes in output, capacity utilization rates, profitability and the like and does not pick up any changes in autonomous investment related to investor confidence, rationalization, product specialization, modernization and third country investment. Hence, our investment projections and the estimated free trade impacts on output and employment are likely to be biased downward.

However, it is very difficult to quantify the impact of free trade on autonomous investment. In an effort to give the reader some feeling for the sensitivity of the aggregate output and employment impacts of the FTA, we have increased the sensitivity of the CANDIDE Model's investment response in two equal stages (1990 and 1994). In this autonomous investment scenario, real investment is assumed to increase by 5 per cent by the end of the simulation period (1998), over and above the induced investment. About half of the increased investment is assumed to occur in the oil and gas industries, in response to improved access to the U.S. market for Canadian exports of oil and gas to that country. The

remaining half of the additional autonomous investment is assumed to occur in durable manufacturing industries and the utilities industry.

As expected, additional investment would increase output, employment, and real income. Over the longer term, real GNE would increase by 0.8 per cent and net employment by 130,000 (financed from domestic savings). However, the gains in output and employment come at the expense of higher prices (2.8 per cent) and a depreciation of Canadian dollar.

If the increased investment were financed through foreign savings (increased foreign direct investment) the Canadian dollar would appreciate in real terms by about 2.5 per cent, reducing the upward pressure on prices. However, a real appreciation of the Canadian dollar would reduce exports and increase imports, significantly increasing adjustment pressures in the Canadian manufacturing sector. Nonetheless, the impact on aggregate output and employment would be only marginally lower, compared to the domestically financed scenario because of the positive impact of the terms-of-trade gain on consumer expenditure (see ALT.1 and ALT.2 in Table 20).

In summary, a modest increase in real investment, spread over 10 years, financed either domestically or abroad, would significantly increase the estimated longer-term impact of FTA on output and employment.

Table 20

Long-Term Macro-Economic Effects
of Canada-U.S. Free Trade: Risks

	ALT.1*	ALT.2*	ALT.3*	ALT.4*	ALT.5*	ALT.6**
			(Per cent difference)			
GNE (1981 $)	0.7	0.8	-0.4	-0.5	0.5	-0.2
CPI (index)	0.8	2.8	-4.9	+2.5	+2.6	-0.1
Exchange rate (U.S. $/ Cnd. $)	1.9	-1.5	5.2	-0.8	-2.8	-0.4
Real disposable income	0.5	0.2	0.1	-0.3	+0.8	-0.2
Investment (1981 $)	5.4	5.5	0.2	-1.1	0.6	-0.5
Exports (1981 $)	-1.1	-0.7	-0.2	-0.6	-0.1	0.0
Imports (1981 $)	1.6	0.3	1.8	-0.7	-0.1	-0.4
			(Level difference)			
Employment (thousand)	119.0	130.0	10.0	-66.0	54.0	-22.0
Unemployment rate (per cent)	-0.5	-0.6	+0.0	+0.2	-0.2	0.1
Total government balance ($ billions)	2.8	4.8	-10.8	2.5	-0.8	-0.8

* Deviations from the free trade agreement case (SIM.2)

** Deviations from the base case.

ALT.1: Autonomous investment - financed abroad
ALT.2: Autonomous investment - domestically financed
ALT.3: 10% appreciation of Canadian dollar (exogenous)
ALT.4: Substitution of indirect taxes to personal income taxes
ALT.5: No revenue neutrality
ALT.6: Potential U.S. trade actions plus increased outflow of direct investment.

2. The Canada-U.S. free trade agreement in services (including financial services), in combination with freer movement of business personnel between the two countries, should substantially increase market opportunities to Canadian service firms in the United States. The Canada-U.S. free trade agreement in services will also increase competition in Canadian service industries, due to the threat of increased U.S. service firm presence in Canada. Increased market opportunities and competitive pressures could increase the working of service sectors in Canada and significantly improve their efficiency. Improved service sector productivity would in turn significantly increase the positive impact of FTA on the Canadian economy. But, as mentioned in Section 2, it is extremely difficult to 'model' these changes in the service sector. As a result, our free trade impacts could be significantly biased downward. For example, a mere 1 per cent increase in total factor productivity in the service sector could increase real GNE by more than 1 per cent and raise employment by about 100,000 over the longer term.

3. In simulating the impact of Canada-U.S. free trade agreement on the Canadian economy, we have not taken into account the beneficial effects of free trade on the U.S. economy and the resulting stimuli to Canadian exports, and thus to output and employment in Canada. This also means that our estimates are biased downward.

4. As well, free trade with the U.S. could result in faster adoption of new technology in Canada and could improve the working of markets in Canada, improving productivity in both manufacturing and non-manufacturing sectors. These dynamic gains in productivity and real income could be larger than the gains due to scale economies and rationalization. Since the CANDIDE Model does not pick up these dynamic gains, the estimated impacts of FTA could be significantly biased downward.

Downside Risks

On the other hand, a number of important considerations suggest that the estimated impacts might be somewhat on the optimistic side.

1. Our free trade simulations suggest that free trade will lower prices significantly. Improved price performance, relative to the U.S., will result in a modest appreciation of the Canadian dollar (about 4 per cent). However, because Canadian prices fall more rapidly than U.S. prices, Canada's competitive position is not adversely affected.

But several observers have expressed concern that the free trade agreement could significantly increase the value of the Canadian dollar and reduce the competitiveness of Canadian exports unless the Bank of Canada deliberately reduced the spread between American U.S. and Canadian interest rates. According to these

observers, the FTA would significantly increase the demand for the Canadian dollar and push up its value because of increased investor confidence in the Canadian economy and increased net capital inflows. An appreciation of the Canadian dollar would reduce Canadian exports to the U.S. and increase U.S. import penetration into Canada. This adverse impact on net exports would significantly increase adjustment problems for the Canadian manufacturing sector and reduce the gains in output and employment from the free trade agreement.

However, the CANDIDE Model only captures the induced effects on the Canadian dollar and does not pick up the impact of the above mentioned autonomous factors on Canadian currency. To examine the sensitivity of output, employment, and net exports to autonomous changes in the value of Canadian dollar, we have simulated the impact of a 10 per cent exogenous appreciation of the Canadian dollar in Canada. Such an appreciation would reduce real GNE by about 0.4 per cent over the longer term; and while it would reduce employment somewhat during the short-to-medium term, it would have no adverse impact on total employment over the longer term. The reductions in manufacturing sector employment due to reductions in net exports would be slightly more than offset by the increases in service-sector employment, caused by a favourable shift in the terms-of-trade (real income gains) and the sectoral shifts in output from manufacturing to services (see ALT.3, in Table 20).

2. In simulating the free trade impacts, the federal government is assumed to cover the loss in tariff revenue by raising personal income taxes.[19] But if the federal government chose to finance the loss in tariff revenue through higher indirect taxes, instead of direct taxes, the drop in consumer prices and the corresponding stimulus to consumer expenditure, and hence to output and employment, would be significantly lower than our estimated impacts. For example, simulations with the CANDIDE Model suggests that substitution of indirect taxes for direct taxes would lower real output by 0.5 per cent and reduce employment by about 70,000 over the longer-term, compared to the free trade base case (see ALT.4 in Table 20). It should be pointed out, however, that this simulation is based on the current structure of indirect taxes, and should not be construed as a simulation of BTT (business transfer tax) or VAT (value added tax), under consideration by the government of Canada.

3. It is often argued that under bilateral free trade, a small country such as Canada will suffer a terms-of-trade loss because it will lose room to manipulate the price of exports. In addition, since on average Canadian tariff rates are higher than the U.S. tariffs, the loss in terms-of-trade could be significant. Under the free trade agreement, Canada gives a preferential duty free status to high-cost U.S. imports over the low-cost imports from third countries such as Japan, Korea, Taiwan, etc. raising the average cost of imports to Canadians -- an effect similar to a

terms-of-trade loss. A loss in terms-of-trade would reduce stimuli to output and employment from the FTA.

In summary, there are risks on the upside as well as on the downside. However, it appears on balance that the impact of the upside opportunities would be somewhat larger than the downside risks, suggesting that the Canada-U.S. free trade agreement could provide significant longer-term benefits to all Canadians.

Assuming the Agreement Is Not Implemented

The simulations described above are based on the premise that the agreement will be approved by both the Canadian Parliament and the U.S. Congress. But approval awaits an ultimate resolution of the debate between those for and against the present agreement, as well as consideration of appropriate legislation by both bodies. The agreement itself was designed to deal with a host of trade irritants on both sides of the border, while others were left pending. Through an exchange of letters, both sides reaffirmed their intention to exercise discretion during the period prior to implementation, "so as not to jeopardize the approval process or undermine the spirit and mutual benefits of the free trade agreement." But if the agreement is not implemented, those irritants, and others as well, will undoubtedly re-emerge for resolution and government action.

In our 23rd and 24th Annual Reviews, we expressed concern about the growing strength of U.S. protectionist sentiment, as reflected in the proposed omnibus trade bill or in the pressures to impose a tariff surcharge on imports (as the United States did in 1970), and about the possible implications of such moves for Canada. The mood in the U.S. Congress today appears somewhat less protectionist. The Congress is therefore unlikely to apply an across-the-board tariff surcharge on imports from all of its trading partners, right in the middle of the GATT negotiations. But it is quite likely to regard favourably new actions of some kind - countervailing duties, quantitative restrictions under the Trade Expansion Act, or negotiated voluntary export restraints.

A number of actions against Canadian exports have been envisaged in the United States should the free-trade agreement be rejected. If undertaken and approved by the U.S. government (or renewed, in the case of shakes and shingles and steel), such initiatives could mean a loss to Canada of close to $450 million dollars' worth of exports (see Box 2). We realize that Canada would not be likely to lose in all of these particular cases, but we expect that, over time, other actions would be initiated.

In this more hostile trading environment, there is likely to be some increase in the outflow of equity capital from Canada and a slowing of the inflow, as firms decide to locate new investments in the United States, where there is less risk of harassment under U.S. trade laws. In recent years, Canada has been a net exporter

Box 2

Potential U.S. Trade Actions against Canada, as of March 1988

Product:	Type of barrier expected from the U.S.	Potential loss of Canadian exports to the U.S. (Millions of C$)
Beef and veal	Global quotas	20
Fall-harvested white potatoes (Atlantic provinces)	Health standards (from Maine farmers)	5
Processed fish (Atlantic and Pacific regions)	Quotas	30
Potash (Saskatchewan and northern Ontario)	Pressure on Canada to further increase export prices (over and above the current agreement of 8 February 1988)	50
Uranium (processed)	Restrictions on enriched Canadian exports	20
Copper	Quotas and increased duties	3
Millfeeds and canola meal (exports to the U.S. Pacific Northwest)	Quotas	20
Cedar shakes and shingles	U.S. duty to be continued after expiry of current duty in January 1991	50
Electricity	Quantitative restrictions (under Section 232 of the U.S. Trade Expansion Act through petition by U.S. mideastern coal interests)	40
Specialty steel	Voluntary export restraints to be continued after 1 October 1989	200
Automobiles	Countervailing duties against Canadian duty-remission programs to third countries	10
Total		448

Source Estimates by the authors, Ottawa, 1988.

of equity capital, with direct inflows averaging about $800 million and direct outflows ranging between $2 and $4 billion per year. We estimate that failure to ratify the agreement could increase that annual outflow by between $500 million and $1 billion. On the strength of this estimate and taking the lower figure, we ran another simulation (ALT.6, Table 20), which combines a $500-million capital outflow with the effects of the U.S. trade actions. In comparison with the base-case projections for 1998, the results show a decrease in Canadian output and a loss of jobs. This simulation is, of course, indicative only, since the Congress has yet to act on the omnibus trade bill and since it is too soon to identify what other protectionist trade actions might be introduced in the coming years. This simulation does illustrate, however, the downside risks if the agreement is not implemented.

SECTION IV

As mentioned in Section 2, our simulation results do not capture the impact of many important provisions of the free trade agreement because it is extremely difficult, if not impossible, to quantify these aspects of the FTA and incorporate them into the model. Consequently, our simulation results are likely to underestimate the agreement's favourable economic impact in Canada. For example, the provisions of the free trade agreement in agriculture, autos, energy, and services (including financial services), in combination with the various dispute settlement mechanisms, could provide a more secure and enhanced access to the large U.S. market for Canadian exports in general, reduce uncertainty, and increase investor confidence in the Canadian economy, thereby increasing both domestic and autonomous foreign investment in Canada.

To overcome this problem, in this section we supplement the discussion of our simulation results with a qualitative assessment of the impact of non-quantifiable aspects of the free trade agreement on major sectors: agriculture, autos, energy, services (including cultural services), financial services, alcoholic beverages, foreign direct investment and the dispute settlement mechanism. For each of these sectors, we first describe the key elements of the free trade agreement, and then provide a qualitative analysis of the impact of the free trade agreement.

Agriculture

The extensive regulation and protection of the agri-food sector in Canada and the United States have posed some difficulties in reconciling trade issues between the two countries. In this respect, the Canada-U.S. agreement is a major first step in liberalizing and harmonizing their agricultural policies. It embodies three broad objectives: maintaining farm incomes in the face of unbalanced world agricultural production, opening borders between the two countries to facilitate a free flow of agricultural goods, and serving as a precursor to multilateral trade negotiations within the GATT.

Both countries trade most of their agricultural exports outside of North America. But total trade in agriculture between Canada and the U.S. is currently running at close to $6 billion Canadian. In 1986 Canada exported $2.7 billion in agricultural products to the United States, and imported $3.6 billion from that country. Canada enjoys an agricultural trade surplus in beef, pork, and live animals, but runs a deficit on fruits, vegetables, nuts, oil seeds, and some other products. A concern of the Canadian government has been the uncertainty of access for Canadian red meats and live animals as a result of the sporadic application of U.S. non-tariff barriers, such as quantitative restrictions.

The principal elements agreed in agriculture are:[21]

- the phased elimination of all tariffs over a period of ten years. However, for a 20-year period, both countries are allowed to restore temporarily tariffs on fresh fruits and vegetables. This will provide the Canadian horticultural industry with an opportunity to adjust to more open trading conditions. This snapback provision applies only if the acreage under cultivation for that product for that year is not larger than a recent average and when import prices fell below 90 per cent of the most recent five-year average;

- mutual exemption from restrictions under meat import laws, thus providing greater certainty of free trade in beef and veal;

- a one-time increase in Canadian global import quotas on chicken, turkey, and eggs at the average level of actual imports over the past five years;

- an exemption for Canada from any future U.S. quantitative import restrictions on products containing 10 per cent or less sugar;

- elimination of Canadian Western Grain Transportation rail subsidies on exports for consumption in the United States shipped through Canadian West Coast ports;

- retention of GATT rights and obligations (including Article XI) for all agricultural trade issues not specifically dealt with in the free trade agreement. For example, Canadian dairy farmers will continue to benefit from supply management protected by import controls since these are not affected by the free trade agreement and are consistent with Canada's GATT obligations.

- elimination of Canadian import licenses for wheat, barley, and oats and their products when the aggregate levels of support for these grains become equivalent in the two countries;

- prohibition of export subsidies on bilateral trade;

- a work program to harmonize or minimize differences in technical regulations to remove barriers to trade between the two countries for agricultural, food and beverage products;

- the establishment of formulas to estimate the aggregate level of support in each country for the three grains are set out;

Likely Impact

FTA assures mutual exemption from restrictions under meat import laws, thus ensuring free trade in beef and veal. Canadian beef and veal producers have occasionally in the past found their exports limited as the U.S. triggered its meat import restrictions

or sought voluntary export restraints. Both countries have also agreed to consult and take measures to avoid trade diversion should either country apply its meat import law against third countries. As noted earlier, Canadian beef and veal would have considerably more secure access to the U.S., where they are competitive and have recently recorded considerable gains in trade. The acceptance of each other's inspection procedures could add an extra impetus to Canadian beef and veal exports to the U.S.

Under FTA, Canadian import licences for wheat, oats, barley and their products would be eliminated for U.S. products when the aggregate American level of support for those grains becomes equal to the Canadian levels. Current estimates indicate higher aggregate levels of support in the U.S. for wheat and barley and approximate equivalence for oats. Therefore, Canadian import licenses are likely to continue to be required for wheat and barley in the near future. Article 705 allows both countries to retain the right to impose or re-impose restrictions on grains and grain products if imports increase significantly as a result of substantial changes in grain support programs.

Canadian marketing agencies would continue to exercise their power to control domestic production as well as imposing indirect price supports with respect to dairy, poultry, and eggs because import quotas have not been substantially increased under FTA. Provided such actions are in accord with the GATT, Canada under

FTA can introduce new import quotas necessary to protect existing or new national supply management programs. This has recently been done when several dairy products like yoghurt and ice cream were added to the Import Control List. Concerns of producers of further processed poultry products that duty-free imports from the United States would put them at a competitive disadvantage will be dealt with, in the first instance, through the priority allocation of import permits to such producers.

Removal of tariffs under FTA would adversely affect some Canadian agricultural products such as fruits and vegetables in some regions though fresh fruits and vegetables will get temporary relief when required for up to 20 years.

However, various representatives of the Canadian food processing industry have made it clear that if Canadian food processors have to continue to pay higher prices for Canadian wheat and flour than their American counterparts, they will be at a serious competitive disadvantage for many processed food products. For this reason, the Canadian government has announced its intentions to discontinue the two-price wheat policy and compensate wheat growers in another way. The agreement may accelerate adjustments already underway in the fruit and vegetable processing sector. In providing for a 20-year tariff period during which tariffs may be temporarily reimposed in depressed price situations both governments have recognized the need for a gradual adjustment process for this sector.

Over all, the FTA will have both positive and negative influence on net Canadian agricultural (exports less imports) to the U.S. To assess such effects, we have estimated the direct effects of the removal of agricultural tariffs and NTBs in the two countries (see Tables 21 and 22). It needs to be stressed that these are partial effects and do not capture the inter-industry feedback effects. Our estimates show that the increase in Canadian agricultural exports to the U.S. will exceed the imports from that country by about $74 million, from the removal of agricultural NTBs in both countries. However, the removal of agricultural tariffs in the two countries will reduce Canadian agricultural net exports (exports less imports) by about $85 millions. As expected, Canadian exports of live animals and meat products to the U.S. will increase, due to the removal of U.S. NTBs. However, Canadian imports of fruits and vegetables and miscellaneous food from the U.S. will go up, because Canadian tariffs on these products are higher than the U.S. tariffs. Nevertheless, on balance, the impact of FTA on agricultural trade between the two countries is expected to be small.

In summary, the agreement provides for duty free access to the large U.S. market for the major agricultural products for which Canada has an export interest such as red meats and live cattle while at the same time allowing continued protection for the supply managed dairy and poultry sectors and for possible tariff relief for import sensitive fresh fruits and vegetables for the next 20 years.

Table 21

Direct Effects of Tariff Removal in Agriculture, Canada-U.S. Free Trade Agreement, Canada and the United States

I/O Commodity	Canadian imports from United States	Canadian exports to United States
	($1981 millions of dollars)	
1 Live animals	2.4	3.0
2 Other agricultural products	50.0	9.0
3 Meat products	3.5	2.0
4 Fruits and vegetable preparation	21.0	3.2
5 Feeds	1.5	0.0
6 Breakfast cereals	4.0	0.0
7 Miscellaneous food	25.0	4.0
8 Tobacco	0.4	1.2
Total	107.8	22.4
Percentage of Canada's total trade with United States (1981)	3.3	1.8

1 Other agricultural products in item 2 are defined in the input/output system and include fresh fruits and vegetables, nursery stock, milk (unprocessed), seeds (excluding oil seeds) and raw tobacco, for instance. Manufactured agricultural goods here cover the categories other than live animals and other agricultural products in the table.

2 Estimates are based on the standard application of price elasticity of import demand in each country to the level of imports of each country from the other in 1981.

Table 22

Direct Effects of Removal of Non-Tariff Barriers in Agriculture by Select Products, Canada-U.S. Free Trade Agreement, Canada and U.S. (NTBs are expressed in tariff equivalents, percentages)

I/O Commodity	Canada		U.S.	
	Extent of NTB Removal (Percentage)	Increase in Canada's imports from U.S. (millions of 1981$)	Extent of NTB Removal (Percentage)	Increase in Canada's Exports to U.S. (millions of 1981$)
Live animals (mainly cattle, poultry)	1.0	3.0	3.5	12.0
Other agricultural Products (mainly eggs in shell)	0.2	1.5	0.0	0.0
Meat products (mainly beef, veal & pork)	1.0	5.0	2.5	80.0
Feeds and canola meal	3.0	-	0.0	-10*
Sugar	0.0	0.0	1.5	2.0
Total		9.5		84.0
Percentage of Canada's total trade with U.S. (1981)		3.1		6.7

Note: Estimates are based on the standard application of price elasticity of import demand in each country to the level of imports of each country from the other in 1981.

* This shows the negative effect of WGTA subsidy withdrawal on exports of Canadian canola meal and millfeeds to the U.S.

Automotives

The automobile industry is one of Canada's largest two-digit manufacturing industries, producing total shipments valued at about $40 billion and employing over 130,000 workers in 1986. Moreover, the auto industry has important linkages with other sectors of the economy. Thus, the broader economic effects of changes in auto production are substantial, particularly in Ontario, where it is primarily located.

The free trade agreement in automotive goods builds on the basic principles underlying the 1965 Automotive Products Trade Agreement (Auto Pact) - the need to promote the integration of the North American auto industry while ensuring a fair share of production for Canada. The free trade agreement maintains Auto Pact production safeguards and increases the pact's scope by removing tariffs on tires and replacement parts.

Trade in automotive products between Canada and the United States has risen dramatically over the last 25 years under the Auto Pact, a carefully designed trade agreement that uses the incentive of tariff elimination to encourage designated auto assemblers to rationalize their North American production facilities.[22] Prior to the Auto Pact, both Canada and the United States imposed substantial tariffs on the entry of assembled passenger cars, as well as parts. The Auto Pact eliminated these tariffs for manufacturers of completed vehicles and original

equipment parts, conditional on these manufacturers' maintaining a one-to-one ratio between net sales value of vehicles made in Canada and the net sales value of vehicles sold in Canada. In addition the Big Three agreed through letters of commitment to generate economic activity in Canada equivalent to at least 60 per cent of the value of their vehicle sales in Canada (CVA). The United States agreed to allow Canadian vehicles and parts whose content was less than 50 per cent of the transaction price free entry into the U.S. Hence the Auto Pact provides a mixture of trade liberalization and protection.

During most of the 1970s, Canada incurred a deficit in its automotive trade with the United States. However, this situation has changed since 1982, when the balance swung into surplus, peaking in 1984, but subsequently moderating somewhat ($6.0 billion in 1986). Since the 1981-82 recession, Canada's exports of motor vehicles and motor vehicle parts to the United States have doubled. This has largely been the result of three factors: the relatively rapid growth of final demand in North America; falling U.S. gasoline prices and the resulting resurgent demand for large cars assembled in Canada; and the improved competitive position of the Canadian automotive industry vis-à-vis the United States.[23] For example, during the 1980s, labour compensation costs in Canada (expressed in a common currency) for motor vehicle and equipment manufacturing have been about 70 per cent of those in the United States, compared to around 80 per cent

in the 1970s, a change attributable mainly to the depreciation of the Canadian vis-à-vis the U.S. dollar.

Canada-U.S. Free Trade Agreement on Automotive Trade

The Canada-U.S. free trade agreement provides for:[24]

- elimination of tariffs on original equipment over 10 years, elimination of tariffs on tires over 10 years, and elimination tariffs and after-market parts over five years;

- phasing out the embargo on the import of used cars into Canada over five years;

- termination of duty waivers linked to exports to the other party (U.S.) upon implementation of the agreement, and to other countries on or before January 1998;

- termination of Canadian production-based duty waivers (duty remission programs) by 1996, or according to the schedules negotiated between the offshore companies concerned and the government of Canada, whichever is sooner;

- a new 50 per cent North American (U.S. and Canadian) rule of origin based on <u>direct</u> cost of manufacturing (materials plus labour, which is equivalent to about 70 per cent of the

transactions value), to stimulate increased use of U.S. and Canadian automotive parts and materials by North American and offshore motor vehicle assemblers;[25]

- an agreement by Canada that no additional companies producing vehicles in Canada may qualify as eligible manufacturers under provisions similar to those in the Auto Pact;

- changing duty drawback and Foreign Trade Zones consistent with the general provision of the Agreement; and

- the creation of a select panel to assess the state of the North American automotive industry and to propose public policy measures and private initiatives to improve its competitiveness in domestic and foreign markets.

In summary, under the proposed agreement, Canada's main automotive duty remission schemes will be phased out by 1996. While the Canadian production safeguards in the Auto Pact remain intact, the tariffs that are there to help enforce the safeguards will be gradually eliminated. The duty-free imports of vehicles and parts into Canada from third countries by qualified companies will continue to be conditional on meeting the production safeguards. As well, the two sides have agreed not to allow any more car companies into the Auto Pact. The trade agreement will require all manufacturers (including overseas producers) to meet 50 per cent (direct costs) of the North American content rule for

parts and materials (about 70 per cent of the transactions value) to have their products move duty-free from Canada to the U.S.

Under the Auto Pact, overseas plants located in the United States cannot export duty-free to Canada, unless they also produce in Canada. Thus a Japanese firm whose sole North American operation is in the United States is subject to 9.2 per cent duty on cars entering Canada. But under the proposed free-trade agreement the overseas producers in the U.S. would obtain duty-free access by 1998 to Canada by fulfilling the new 50 per cent North American content rule (50 per cent of material and labour costs). Therefore, the location of new offshore plants in Canada and the expansion or contraction of existing plants will be mainly influenced by changes in market conditions, such as unit labour costs and exchange rates, etc., in Canada relative to the United States.

The Controversy

The critics of the proposed free-trade agreement on automotive products are concerned that the agreement's provisions will weaken future government auto policy and leave the future to the uncertainties of market forces and unilateral corporate decisions. They argue that gradual elimination of tariffs on the automotive products will reduce the production safeguards in the Auto Pact to guidelines, with no penalty and no enforcement mechanism. They further argue that the proposed agreement, by restricting the Auto

Pact benefits to current participants only, will reduce the commitment to jobs and investment in Canada by overseas producers. An additional concern is that the "Big Three" (GM, Ford, and Chrysler), who already have much more than 50 per cent North American content, could bring in more parts from Mexico and Japan and still meet the new requirements.

In contrast, the agreement's supporters see the changes to the automotive sector as being good for Canada. They argue that the duty remission scheme was a real irritant to the United States, and that Canada could have faced a potentially costly countervail action from the Americans. Since Canada is a very competitive location and the Big Three auto companies have massive investments in Canada, the commitments to jobs and investment in Canada by these companies will be honoured, if not exceeded. Moreover, during the last 25 years, auto manufacturers have exceeded the minimum requirements (safeguards) by a wide margin. They further argue that the new North American rule of origin (50 per cent of material and processing costs) will induce both North American and overseas producers to buy more North American parts and materials, and thus increase employment and investment both in Canada and the United States. Furthermore, since cost considerations would still be expected to be the primary justification for plant location, both offshore and North American auto makers should continue to invest in Canada.

Likely Impact

Our analysis suggests that the vast bulk of the industry, including car and light truck assembly plants and the larger parts makers, will be relatively unaffected by free trade. However, small parts manufacturers, mainly supplying the after market parts, will be forced to restructure as a result of the removal of tariff protection, the phasing out of the duty remission schemes, and competitive developments in the industry. Canadian heavy truck facilities are not competitive and face the threat of a production shift to the United States. Removal of the embargo on the import of used cars into Canada from the United States could increase competition and widen consumer choice in the used car market in Canada.

Small parts producers and heavy truck assemblers account for only 10 per cent of industry value added. They face competitive difficulties for the following reasons: U.S.-owned Canadian operations of heavy truck assembly are small and in many cases have been maintained by parent corporations to meet Auto Pact production commitments. As tariffs are phased out, these commitments will become less important. Accordingly, a number of plants could shut down and Canadian requirements could be met from the United States, unless competitive conditions improve in Canada.

Canada runs a chronic deficit in parts, concentrated mostly in after-market equipment and in the in-house operations of the Big Three. The Big Three account for about 45 per cent of shipments of the motor vehicle parts industry. Foreign-owned independents account for approximately 41 per cent of the parts shipments. The remaining production (14 per cent) is accounted for by Canadian-owned companies.

While most original equipment parts trade duty-free between Canada and the United States under the Auto Pact, all after-market parts are subject to normal tariffs. Canada has been less successful in attracting parts producers from Japan than in attracting vehicle assembly, despite the duty remission programs. Duty remission has amounted to less than $10 million in the last two years. However, the amount is expected to rise substantially in the 1990s, once offshore plants in Canada start operating at full capacity. As tariffs and duty remission programs are phased out, the small parts producers in Canada, who mainly produce replacement parts, will come under intense pressure to restructure their operations and become cost-competitive or else suffer a reduction in their market share to large parts producers elsewhere in Canada.

Under the Auto Pact, motor vehicles can move duty-free between Canada and the United States, and Canadian car makers can also import parts and vehicles from third countries free of tariffs. The free trade deal restricts the benefits of the Auto Pact to

those firms currently participating, mainly General Motors (including its joint venture with Suzuki in Ingersoll, Ontario), Ford, and Chrysler. Removal of the duty remission programs, coupled with the restrictions of Auto Pact benefits mainly to the Big Three companies and the ending of duty drawback in 1993, will put overseas assembly plants in Canada at a competitive disadvantage compared with overseas plants in the United States which depend on overseas parts, because of the large difference in tariff rates on overseas imports in the two countries. Canada's tariff on auto parts is 9.2 per cent, while the comparable U.S. tariff is about 3.0 per cent. If this tariff disadvantage continues, it could discourage both the building of new auto plants and expansion of existing plants in Canada by overseas auto makers. There are several other factors to consider here, however: first the tariff disadvantage could be eliminated during the Uruguay round or unilaterally before duty drawback disappears; second, decisions on further overseas investment in auto production in North America will be influenced by the demand for autos and by relative costs.

The negative impact of the free trade agreement on overseas investment in the automobile sector is expected to be quite small, provided Canada maintains or improves its present cost advantage over the U.S. As pointed out earlier, Canadian hourly compensation in the automobile sector is, on average, about 30 per cent below the U.S. level (with a 75¢ dollar). In addition, the expected slowdown in North American demand for automobiles will

likely result in a substantial over-supply of assembly facilities in North America. Therefore, no new auto assembly plants are likely to be built in North America in this century, with or without the free trade agreement.

In summary, since market conditions are still expected to be the critical factor in the determination of plant location, future trends in the Canadian share of North American production will be mainly influenced by wage and other cost developments, productivity trends in the two countries, and the value of the Canadian dollar vis-à-vis the U.S. dollar and Japaneese Yen.

General Services

The service industries account for a large and growing share of output and employment in the industrialized countries, including Canada. In 1985, the service sector accounted for 65.3 per cent of output (GDP) and 70.4 per cent of employment in the Canadian economy, compared to 54.2 per cent and 53.8 per cent, respectively, in 1960.

The general shift to a service economy has been caused by a number of factors: an increased demand for consumer services and leisure goods; a growing need by business for services such as marketing, accounting, and the like, which have traditionally been provided internally by companies; a greater demand by government, a major consumer of services; and technological advances, especially in information technology, which are rapidly improving methods of producing, managing, and delivering services.

The industrialized countries, including Canada, are the largest producers and consumers of traded services. The United States, France, the United Kingdom, West Germany, Italy, Japan, and Canada account for over half of all service exports. Because of the relative size of its economy and the advanced development of its service sector, the United States remains the leading exporter of services.

Trade in traditional services like shipping, aviation, communications, banking, and insurance facilitates commodity trade. Therefore, barriers to trade in services also hamper trade in goods. International trade in services is also essential for the functioning of multinationals, which are major contributors to the international transfer of technology. Hence, barriers to trade in services and pressures for increased protectionism could pose a threat to the health of the world economy. On the other hand, freer trade in services, like freer trade in goods, will lead to better use of resources, more competitive markets, and increased productivity.

An agreement on international rules on rights and obligations to facilitate and expand trade in services is an important U.S. objective in the current Uruguay Round of GATT. The Canada-U.S. free trade agreement on services will serve as a constructive model and should provide a stimulus to negotiations in this area at the current MTN round.

Canada-U.S. Free Trade Agreement in Services

The agreement establishes the first comprehensive international understanding over the service industries (Chapter 14) under which each side will grant national treatment to each other's citizens with respect to all new measures affecting most of the commercial services, (including agricultural and forestry services, mining services, construction services, insurance, and

real estate services). The free trade agreement in services does not apply to transportation services, basic telecommunications (such as telephone service), doctors, dentists, lawyers, child care, and government services (health, education, and social services).[26] It provides for the right of establishment, the right of cross-border sales, easier border crossing for temporary entry of business people, and a binding dispute-settlement mechanism. In addition, the agreement provides separate undertakings covering enhanced telecommunications and computer services, tourism, and architectural services.

Free movement of managers, technicians, salesmen, and professional people is vital to a free flow of goods and services between the two countries. The two governments have thus agreed to take necessary steps to ensure that business persons and enterprises will have the necessary access to each other's market in order to sell their goods and services and supply after-sales service to their customers. This means business personnel providing professional services will be able to work in the other country on temporary assignments. However, this new "temporary entry" category will not interfere with either country's ability to manage its own immigration policy.[27]

The obligation to extend national treatment does not mean harmonization of regulatory and commercial policies in the two countries. Moreover, since "national treatment" applies only to new measures, the free trade agreement does not require either

government to change existing laws and practices. Furthermore, the two countries have not agreed to harmonize their licensing procedures, health and safety standards, consumer protection laws, or commercial regulations. Rather, both countries have agreed not to discriminate between Canadian and American providers of these services with respect to any new regulations and changes in existing regulations.

Likely Impact

As mentioned before, there are presently no tariff barriers to service flows between the two countries. The same is true for world trade in services. Most barriers to service trade are non-tariff barriers, primarily of a regulatory nature. In view of the difficulties in quantifying the barriers to services trade between the two countries, the severe measurement problems associated with trade flows, and the lack of reliable data on service trade elasticities, it is very difficult, if not impossible, to model the impact of the Canada-U.S. free trade agreement on service flows between the two countries.

However, our analysis suggests that the immediate direct impact of bilateral free trade agreement in services on service trade flows (exports and imports) is likely to be small. First, with the exception of a few areas (e.g. licensing and the temporary entry of business people) the level and nature of non-tariff barriers tend to be minimal and similar in the two countries.

Consequently, the services trade between the two countries is not significantly affected by the non-tariff barriers.[28] Second, under the free trade agreement, each side will grant national treatment to each other's citizens only with respect to all new measures affecting services. Thus, the free trade agreement in services basically formalizes the gains that have been made in the past and agrees to a standstill on non-tariff barriers in services. Finally, the service trade flows between the two countries are currently quite small and represent only a small part of[29] total service sector activity. For instance, in architectural, engineering, and scientific services, the share of income from exports in the total industry receipts (sales) is less than 10 per cent in Canada.

Over the medium to long term, the provision of temporary access through the relaxation of entry rules for business people who are citizens of either country and the right of establishment could influence the development of new business and the start-up of new service firms in the two countries. Service firms on either side of the border will now have greater scope for entering business on the other side. Therefore, the free trade agreement in services provides substantial market opportunities to Canadian firms in the United States, as well as enhancing competition and potentially improving the working of the service sector in Canada. For example, the free trade agreement in services could significantly increase trade in consulting and other professional services in Canada's favour. Nevertheless, given an expected increase in

information storage and retrieval service payments to the U.S. and increased software imports from the United States, the small current positive balance on computer services with the U.S. could substantially erode, if not reverse, in the future.

The indirect effect of Canada-U.S. free trade agreement on service industries could be substantial. Increases in real income and consumer expenditure resulting from lower consumer prices and improved productivity could result, as shown by the model simulations by the Council and other research groups, in significant increases in service sector output and employment. Furthermore, the Canada-U.S. free trade agreement in services could become a model for negotiations at the current GATT negotiations and produce a multilateral agreement on services trade. Liberalization of world service trade would provide a significant stimulus to our service exports to developing countries, especially in consulting services, telecommunications, and computer services.

The proposed free trade agreement in goods and services and liberalization of investment flows between the two countries will likely increase intra-firm trade by U.S. and Canadian multinationals. Increased intra-firm trade could further increase the deficit in management and administrative services and royalties, patents, and trade marks, and could more than offset any potential improvement in consultancy services. On the other hand, the recent build-up of substantial amounts of Canadian

capital in the U.S. could significantly increase trade between the Canadian subsidiaries in the U.S. and their Canadian parent companies and increase Canadian exports to the U.S., thus reducing some of this country's business service deficit with the United States.[30]

In summary, the Canada-U.S. free trade agreement has made an important breakthrough in the service areas. It will protect market access of Canadian service firms in the U.S. market. Canada will have the same obligation to open our market to U.S. service firms. Temporary access (temporary entry of business persons), the right of establishment in general services, and the relaxation of ownership and asset restrictions in financial services will increase competition and increase efficiency in the service sector in both countries.

However the various provisions of the agreement affecting the service sector cannot be modelled. We believe that we are understating the effect of the free trade agreement on the Canadian economy by not being able to incorporate these direct impact of the relevant agreement provisions in our modelling work.

Foreign Investment and The Canada-U.S. Free Trade Agreement

The investment provisions of the FTA are among the most controversial of the whole agreement as they touch on issues which are sensitive to the national interests of both Canada and the U.S.A. The FTA establishes some basic rights and obligations relating to the principle of national treatment, the prohibition of certain performance requirements, and the establishment of safeguards to protect the interests of foreign investors in the event of expropriation. The principle of national treatment requires that each country accord the investors from the other country treatment no less favourable than accorded its own investors with respect to its regulations affecting the establishment, the acquisition, the conduct and operation, and the sale of business firms. In addition, the FTA will grandfather existing discriminatory laws, practices, and policies in both countries. Thus, existing Canadian practices with respect to ownership in the field of broadcasting, energy and other sectors of the Canadian economy are permitted to continue. But these practices cannot be made more restrictive after the implementation of the FTA.

The principle of national treatment is enshrined in the FTA but is qualified by the following important undertakings by both countries:

- Canada retains the right to review the direct acquisitions of Canadian-owned firms by U.S. investors but the new (gross) asset threshold level for Investment Canada review will be raised in four steps from the existing level of $5 million to $150 million in 1992.

- Canada has agreed to phase out over a four-year period the right to review indirect U.S. acquisitions involving the transfer of control of one foreign-controlled firm to another.

- Existing Canadian investment policies relating to the energy sector have been grandfathered. Foreign acquisitions of healthy Canadian energy firms will generally be disallowed. The threshold level for investment review of acquisitions in the oil, gas and uranium industries will not be raised from the existing level of $5 million. The requirement of 50 per cent Canadian ownership for issuance of an energy production licence on frontier lands remains unchanged.

- Canada retains its ability to review all direct and indirect acquisitions by foreign investors in the cultural industries.

- All existing laws restricting foreign ownership in communications and transportation industries are grandfathered in both countries.

- After the implementation of the Free Trade Agreement, Canada cannot impose any minimum equity requirement on American investors in this country. Both countries have agreed to prohibit certain performance requirements, which distort bilateral trade flows, such as domestic content, import substitution, and export requirement. However, this restriction does not prevent Canada from negotiating with foreign investors such performance requirements as research and development undertakings, technology transfer, product mandates, and employment of Canadian labour in the establishment or conduct of a business activity.

- Canada and the United States are completely free to regulate the ongoing operation of business enterprises in their respective jurisdictions under, for example, competition law, provided they do not discriminate in favour of domestic investors. Furthermore, both governments remain free to tax foreign-owned firms on a different basis than domestic firms provided this does not result in arbitrary or unjustifiable discrimination.

- With respect to expropriation (nationalization of an industry) to achieve some public policy goal, either country can choose to do so on the basis of due process of law, based on fair and adequate compensation.

- Existing federal or provincial crown corporations are exempted from the national treatment provision of the free trade

agreement. Thus, Canada can privatize crown corporations through share offerings restricted to Canadian citizens.

Likely Impact

The FTA investment provision is a modest step toward liberalization of capital investment. The national treatment principle in the FTA does not infringe our ability to regulate foreign investment to achieve Canadian objectives; it means only that Canada cannot discriminate in treating between Canadian and American-owned enterprises in Canada. Canada, with the new investment review threshold level, can still continue to review acquisition of 500 or so larger Canadian firms. Two-thirds of all Canadian-controlled non-financial assets will still be reviewable if acquired by American firms - down from about 75 per cent currently. It can impose performance requirements on foreign investors with respect to R&D activity, technology transfer and product mandates.

It is generally acknowledged that in earlier times Canada's high tariffs induced the establishment of American-owned branch plants to serve the Canadian market. Prior to 1950, U.S. direct investment accelerated under the stimulus of high Canadian tariffs. However, since 1950, U.S. direct investment in Canada responded more to the growth of the Canadian market, and, thus, has become large. Some free trade critics believe that the removal of existing tariffs could trigger a mass exodus of

American subsidiaries. We see little evidence of this occurring. Some firms might of course leave, if it is more efficient to base their production south of the border, but various sunk costs limit a firm's ability to exit a market (Bishop and Crookell, 1986). Today, the competitive advantage of American subsidiaries in Canada arises largely from their "firm-specific" assets which include technology, experience and reputation (Economic Council, Managing Adjustment, 1988). They will exit from Canada only if the FTA makes their assets less important in the production process, which is unlikely to happen. Most will continue to operate in Canada because they use certain raw materials, or factors of production, which are relatively cheaper in Canada and because they are already close to the American heartland and can serve it as well as the Canada market effectively from here.

Canadian direct investment flows to the United States have grown and now exceed those of American direct investment into Canada. The average annual rate of increase in Canadian FDI position in the United States has been over 20 per cent over the ten-year period from 1975 to 1985. American FDI, on the other hand, has been growing more slowly in Canada. As a result, by 1985, the stock of Canadian direct investment in the U.S.A. was equal to 60 per cent of that of American direct investment in Canada, up from about 19 per cent in 1975 (Rugman, 1988). Threatened loss of access to the big U.S. market, attributable to the growing use of contingency protection in the United States, has been a key factor in shifting more Canadian investment south of the border. With

free trade, this kind of capital outflow from Canada should disappear or decline. Bilateral investment will, in future, be dictated more by market or cost considerations.

For Canada, a more important benefit from the investment provisions of the free trade agreement will come from the fact that Canada will be exempted from future restrictions on foreign investment by the United States. Americans are getting quite concerned that foreign companies are acquiring U.S. energy resources, key manufacturing firms, and buying important real estate properties across the country. If they impose some sort of performance review procedure on foreign direct investment, Canada will not be sideswiped after the implementation of the FTA. This will, indeed, be an important gain to future Canadian exporters or investors in the United States.

Trade and investment liberalization will provide a further means to rationalize production and increase efficiency, where rationalization entails the specialization in a particular product line or stage of production. The majority of all bilateral trade in manufactured products is in the form of intra-firm sales, and the reduction of trade barriers should result in larger intra-firm trade. In addition, the experience of the European Economic Community confirms the positive link between the elimination of tariffs and the rationalization of production (Bishop and Crookell, 1986). After the formation of the common market, most

foreign subsidiaries in the EEC underwent production rationalization over a period of time. One of the most important findings about capital spending in Canada is that the tariff reductions of the 1970s have caused significant amounts of rationalizing investment (Caves, 1987). This is most evident in industries containing many multinationals.

The Auto Pact has induced substantial parent-subsidiary integration in the automotive sector over time, and such integration is also presently found in the production of aircraft parts, office machines, machinery, appliances, other electrical machinery, and telecommunication equipment (Litvak and Warner, 1987). As a result, there has been an increase in the export orientation and import penetration of a number of Canadian manufacturing industries, particularly where foreign ownership is significant. The FTA will further facilitate or strengthen parent-subsidiary integration in several industrial sectors.

The world is now witnessing a trend toward the internationalization of multinational enterprises. American MNE's decisions on the location of production facilities would increasingly respond to cost difference and would favour some Canadian plants. American firms might thus move some of their operations to north of the border, just as they have done in the U.S. by moving to the South from the Northeastern regions of the United States in search of better profit opportunities. In the process of internationalization, U.S. subsidiaries in Canada would specialize in certain

product lines and cater to the whole North American market as well as third countries. They will do more R and D activity, develop new products, use more Canadian supply sources, produce high-skilled jobs and export more to the U.S.A. and third countries. In view of the process of internationalization of MNEs and current intense global competition to attract FDI, the FTA provision to further ease regulation of foreign investment is a positive step. There is also a trend towards globalization of investment via investment consortia and strategic alliances (Ohmae 1987). The recent Canadian participation in some of these global ventures by Canadian MNEs adds an additional dimension to liberalize trade and calls for a non-restrictive environment for both Canadian and American multinational enterprises to implement their investment intentions.

In summary, the FTA will improve the economic environment between Canada and the United States in ways which would promote additional investment activity in Canada. The provision of national treatment, the elimination of trade-related performance requirements, will have a positive impact on the behaviour of MNEs, with important economic gains accruing to both countries. As part of our work for this study, we commissioned a survey of major multinational firms with establishment on both sides of the border, asking how a bilateral free trade accord would affect their business plans. Most respondents indicated that they would benefit directly from the national treatment provision and the harmonization of technical standards; most of them expected their

sales and exports to increase; and most expected to increase their investment in Canada by 10 to 20 per cent, as a direct result of the accord. As Canadian growth takes root, more direct investment is likely to be forthcoming also from third countries. In view of the trend toward greater internationalization of national economies, global competition to attract FDI, and the growth of Canadian outward investment, the FTA should open up new opportunities for Canada abroad and for foreign investment in this country, thus enabling Canada to realize greater economic benefits from free trade.

Financial Services

Canadian financial institutions are undergoing fundamental changes because of changes in the environment, both international and domestic, in which they are operating. Increasing links among financial institutions across countries are contributing to these changes. Some of the major factors for increased internationalization of financial institutions include the growth of multinationals, greater world trade and investment flows between countries, keener competition in international and domestic financial markets, the debt problems of the Third World countries (especially the Latin American countries and Mexico), changes in information technology, and deregulation and re-regulation of financial markets in the industrialized countries. An important result of these changes is that the traditional boundaries between various financial institutions are coming under tremendous pressure. The free trade agreement on financial services reflects both the substantial integration of U.S. and Canadian markets that already exists and the changes in regulation that have emerged in both countries in recent years.

Provisions of the FTA

Chapter 17 of the Canada/US free trade agreement preserves the access that Canadian and US financial institutions have to each others' markets. Also, both Canada and the United States have

agreed to continue liberalizing the rules governing their respective financial markets and to extend the benefits of such liberalization to institutions controlled by the other country. More specifically:

- The government of Canada undertakes to exempt US institutions from the 10/25 ownership rule applying to Canadian companies, investment, loan, and trust companies. The Canadian government removes the 25 per cent limitation on total foreign participation in Schedule A banks but keeps the 10 per cent maximum single ownership of a large Canadian bank as specified in the government's White Paper.

- Canada agrees to exempt U.S. bank subsidiaries, individually and collectively, from the limitation on total domestic assets of foreign bank subsidiaries in Canada (the 16 per cent limitation on total Canadian assets).

- Canada agrees not to use review powers governing the entry of U.S.-controlled financial institutions in a manner inconsistent with the aims of the Agreement.

- The United States agrees to allow U.S., Canadian, and other foreign banks to engage in dealing in the underwriting and purchasing of Canadian government direct or guaranteed debt in the United States.

- The United States grandfathers the existing privileges of Canadian banks with regard to retail and other banking operations in a number of U.S. states.

- Canadian financial institutions will be treated the same as U.S. banks with respect to any changes in the Glass-Steagall Act.

- It should be noted that this agreement only binds the two federal governments. It does not involve Canadian provinces or U.S. states.

- Financial institutions, other than insurance, are not covered by the dispute settlement procedures of the Agreement. Rather, both parties have agreed to consult and these consultations will take place between the Canadian Department of Finance and the United States Department of the Treasury. Insurance services are covered by the agreement in general services. (Chapter 14 of the Canada-U.S. free trade agreement.)

Likely Impact

For the financial services industry, the right of access is crucial to a freer flow of services. With this in mind, the Canada-U.S. free trade agreement has taken steps to liberalize further trade and investment in financial services between the two countries. The agreement allows U.S. institutions to offer both investment and commercial banking services in Canada. In

contrast, Canadian institutions will still not enjoy comparable privileges in the U.S., due to Glass-Steagall Act restrictions and entry barriers to branch banking -- the latter being the result of some states' legislation --, but they would benefit equally from any subsequent changes in the Glass-Steagall Act. As a result, Canadian-owned financial firms, at least initially, would have less scope for activity in the United States than U.S. firms would have in Canada. But regulation of the Canadian securities industry is a provincial matter, and liberalization of foreign access to Canadian securities market in Ontario, Quebec, and British Columbia occurred prior to the free trade agreement.

The removal of ownership restrictions (the 25 per cent limit on aggregate U.S. investment in Canadian Schedule "A" banks) could in theory result in U.S. investors' obtaining control of large Canadian banks. But the retention of the 10 per cent ceiling on the ownership of shares by a single investor or associated group of investors, whether domestic or foreign, makes the takeover of Canadian banks by U.S. citizens very difficult, if not impossible. Furthermore, over the last 15 years foreign ownership of the big six banks has actually declined -- from about 25 per cent to 5 per cent.[32]

The exclusion of U.S. bank subsidiaries from the 16 per cent ceiling and the elimination of the deemed authorized capital restrictions would allow these banks to increase their market share in Canada. However, the 16 per cent ceiling has not so far

been constraining. For instance, in 1986 foreign banks' assets were only about 80 per cent of their potential market, determined by the asset ceiling.

Under the free trade agreement, U.S. banks will obtain the right to establish additional branches within Canada without prior ministerial approval. But such ministerial approval has never been denied in the past. Thus, dropping of the requirement of ministerial approval merely removes an irritant.

The major recent liberalization in Canada - the opening up of the securities industry - took place before the free trade agreement. U.S. institutions will be able to offer both investment and commercial banking services in Canada as of June 30, 1988. Furthermore, a subsidiary of a U.S. financial institution can at the same time become involved in the ownership of insurance and trust companies if it so desires. The proposed amendments to the Glass-Steagall Act now under consideration in the United States would still not go as far as the liberalization announced in Canada. The intent of the Canadian government is to allow each financial institution to participate in the ownership of any other financial institution.

As in the case of general services, the immediate direct impact of the free trade agreement on financial service trade flows is expected to be small, because the agreement does not amount to much change from the current situation. But the removal of

barriers to trade and investment in financial services could increase competition in financial markets in Canada, because of the prospect of increased activity by U.S. financial institutions in Canada. Increased competition could in turn improve the quality of services, increase consumer choice, and reduce the spread between interest rates on loans and deposits. In addition, broad-based gains in output and employment, due to the general terms of the agreement, will in general increase the demand for financial services, resulting indirectly in higher output and employment in the Canadian financial sector.

Cultural Industries

In view of widespread concerns about the situation of Canada's cultural industries and Canadian cultural sovereignty under free trade, cultural industries were exempted from the provisions of the free trade agreement with four minor exceptions. These are outlined below.

- The Agreement provides for the progressive elimination of all tariffs between Canada and the U.S., including those that apply to cultural products, over 10 years starting on January 1, 1989. It is worth noting that most of these tariffs have been gradually reduced in recent years as part of undertakings under the previous GATT negotiations and that there has not been a negative impact on the production of cultural goods, such as records, cassettes, master tapes, films or compact discs from earlier tariff reductions. In fact production levels have grown apace with tariff reductions. This provision will further lower costs for consumers.

- Canada has agreed that any divestiture of indirect acquisitions of Canadian subsidiaries in cultural industries will be made at fair open market values determined by impartial assessment. For example, the provision ensures a fair market price to U.S. interests that have indirectly acquired a book publishing or distribution establishment in Canada, and/or have been required to relinquish control of Canadian interests. This provision

applies to all cultural industries, as defined in the Agreement.

- Both countries have agreed that copyright holders from one country will obtain equitable and non-discriminatory remuneration for the retransmission of their programs by cable companies in the other country. The Agreement confirms an earlier recommendation of the Canadian government to revise the Copyright Act that would have Canadian cable television viewers compensate copyright holders for certain categories of programs that are retransmitted by cable television companies (where no payments are currently made). The text ensures that all distant Canadian broadcast signals carried by U.S. cable companies attract equitable and non-discriminatory remuneration, which is not currently the case.

- The Agreement also stipulates that Canada should delete from Section 19(5) of the Income Tax Act the requirement that a magazine or a periodical be typeset and printed in Canada so that advertisers may be able to deduct expenses from their income for advertising space - a relatively trivial item.

Finally, if Canada adopts future cultural measures which are inconsistent with the Agreement and affect the U.S. industry, the United States would be entitled to seek compensation of equivalent commercial effect.

Conclusion

In summary, Canadian cultural industries are mainly excluded from the free trade agreement. As a result, Canada's ability to foster a unique cultural identity is not eroded. In addition, the agreement in general does not prevent the Canadian government from taking any new measures to support Canadian cultural industries. Thus, subsidies to Canadian cultural industries or artists are unaffected by the Agreement as are the activities of federal or provincial cultural agencies such as the CBC, the NFB, or Telefilm Canada.

Energy and The Free Trade Agreement

The energy chapter is one of the most important, as well as contentious, elements of the Canada-U.S. free trade agreement. The provisions consolidate recent changes (the Western Accord and the deregulation of the natural gas market) in Canadian energy policy that have already liberalized energy trade between Canada and the United States. The FTA ensures, for Canada, a more secure and a more open access to the U.S. market for our energy exports. For the United States, the FTA provides security of Canadian energy supplies, even in times of shortages. The accord covers coal and coal gas; crude oil and petroleum products; natural gas; liquified petroleum gases including propane, butane and ethane; electricity; and uranium.

Canada is a major world energy producer, accounting for some 4 per cent of the world's supply of primary energy. On a per capita basis, Canada ranks second to Norway among OECD energy-producing countries. The Canadian energy industry contributes over 7 per cent to Canadian GDP and employs some 305,000 workers, which represents close to 3 per cent of total Canadian employment. About 14 per cent of total Canadian investment is in the energy sector. The industry has a very important regional dimension: in the Prairies over one-quarter of the GDP comes from the energy industry. Furthermore, most of Canada's oil, gas and coal come from Alberta and British Columbia, and uranium from Saskatchewan and Ontario, while hydro electricity

is mostly generated by Quebec, Ontario, Manitoba, Newfoundland and British Columbia. This situation makes for considerable inter-provincial energy trade.

Canada is a major exporter and importer of energy. In 1986 energy exports amounted to over $12 billion and imports to $5 billion. Eastern Canada still relies heavily on imported crude oil and petroleum products. Since 1983 Canada has been a net exporter of all energy products. Energy exports have been increasing; in 1986 they accounted for about 10 per cent of total Canadian exports. Over 85 per cent of Canada's heavy crude oil production, valued in 1986 at $5.7 billion, over 20 per cent of light crude oil, over 20 per cent of coal, over 25 per cent of natural gas and about 10 per cent of our hydro electricity are exported. The United States buys over 80 per cent of Canada's energy exports. Canada is the sole supplier to the United States of natural gas and electricity, and a major supplier of that country's uranium. Thus, the American market is vitally important to our energy industry.

Because oil and gas production in the United States is falling, U.S. imports are likely to increase if present trends continue. Much of this increased supply could be shipped from Canada. The U.S. demand for electrical energy from Canada is also expected to grow substantially.

Free Trade Agreement Provisions

° Under the Canada-U.S. free trade agreement, virtually all barriers to energy trade are eliminated, providing Canadian energy firms with secure access, on a non-discriminatory basis, for their exports to the U.S.A., and Americans with secure access to Canadian energy supplies, even in times of short supply. At present, there are no tariffs on either side of the border with respect to natural gas, electricity, uranium and natural gas liquid. While Canada does not, in general, impose tariffs on the import of crude oil or petroleum products, the United States levies import tariffs ranging from U.S. 5.25 cents per barrel on heavy crude oil and heavy fuel oil to U.S. 10.5 cents per barrel on light crude oil and distillates and U.S. 52.5 cents per barrel on gasoline and jet fuel. Canadian petrochemical producers face tariffs ranging from about 12 to 18 per cent on exports to the U.S.A. The FTA will eliminate these American import tariffs over a five-year period. After the implementation of the FTA, there will be no tariffs, no quantitative restrictions, and no price discrimination. The trade agreement will forbid the use of minimum export or import price requirements, and of export taxes unless the same taxes are imposed on domestic consumers.

° Canada can restrict exports of energy for GATT-approved reasons of short supply, conservation, or domestic price stabilization, but only if the restrictions do not alter the previous 36-month

proportion of exports to the United States in relation to total supply. It is important to note that this concept of proportional access does not mean that the United States always has a claim to a fixed share of Canadian production. Proportional sharing implies that Canada must refrain from imposing restrictions that would reduce exports below the proportion of Canadian supply which the American importers had purchased from Canada during the previous three years.

- Canada and the United States have also agreed that, in order to expand or maintain the reserve base for oil and natural gas, existing and future government incentives for oil and gas exploration and development will continue to be allowed. The trade agreement does not prevent federal and provincial governments from providing tax incentives or other types of government support to oil and natural gas companies involved in exploration and development.

- The United States has agreed to eliminate restrictions on the enrichment of Canadian uranium in the U.S.A., while Canada has agreed to eliminate the requirement that the uranium be processed in Canada before being exported to the United States. This provision should have a positive impact on our uranium export to the U.S.A.

- The trade agreement does not affect provincial powers with respect to the ownership of natural resource within their

respective borders. The provinces continue to be responsible for resource conservation and management. However, the exercise of provincial powers should be consistent with the terms of the FTA when provinces export their energy products to the United States.

- The National Energy Board will still be able to monitor and review exports. Surplus tests, for example, will remain intact, but would be largely for monitoring purposes. One of the National Energy Board's price test for the electricity sector, that is, the least cost alternative test, has been eliminated under the trade agreement. The other two price tests, such as the first price test which stipulates that the price charged for exports cannot be less than that required to recover all associated costs in Canada and the second price test whereby the export prices cannot be less than the prices offered to Canadians, have not been touched under the trade agreement.

- Canada and the United States have agreed to consult on energy regulatory actions that result in discriminatory practices and, thus, distortions in bilateral trade inconsistent with the objectives of the FTA in energy products.

- The United States has agreed to allow 50,000 barrels per day of Alaskan oil exports to Canada provided they are shipped to Canada in U.S. tankers. Although this concession may be useful in the future, it is not now a significant benefit because

Canada's west Coast refineries are not suitable to handle crude oil from this source.

Likely Impacts

Canadian energy trade with the United States is already largely free; trade restrictions by both countries are relatively small. The Western Accord, the deregulation of the gas market and the establishment of "market-based procedure" by the National Energy Board, to replace the earlier surplus formula to set reserves aside for future domestic consumption, have eased regulatory or policy controls on exports to the U.S.A. Except for the petrochemical industry, American tariff restrictions on some energy products are relatively small. All these American tariff barriers will be removed as a result of trade agreement. Since these tariffs are small, their removal will have modest positive effect on bilateral energy trade or on the Canadian energy industry's output. In particular, our oil sector will benefit moderately from the elimination of American tariffs. However, the Canadian petrochemical industry will get an important boost from the removal of high U.S. tariffs on Canadian exports of petrochemical products.

Although Canadian regulatory procedures have been simplified, the American procedures, especially by the Federal Energy Regulatory Commission (FERC) can still restrict our energy export to the United States. FERC regulates rates and charges for

transportation of natural gas by pipelines, and authorizes construction of gas pipelines and facilities. For example, the current FERC's regulatory delay in approving a new pipeline from Iroquois (Ontario) into New York, New Jersey and Connecticut is an important bottleneck to expand Canada's natural gas market to the U.S. Northeast. Although Canada cannot prevent adverse rulings by FERC or by the Economic Regulatory Administration (ERA), it can control or reduce, through the FTA consultative or dispute-settlement mechanisms, the adverse effects of rulings of these two American regulatory agencies. The consultative or dispute-settlement mechanism will make it easier to influence regulatory agencies in the United States.

A concern of some Canadians is that the provision of proportionate sharing jeopardizes Canadian sovereignty and that sharing the shortages will effectively undermine Canada's ability to achieve self-sufficiency in energy. That argument ignores the fact that Canada is already committed to an emergency oil sharing system as a member of the International Energy Agency (IEA). The IEA's procedures override those of the Canada-U.S. agreement and require that in times of shortage each member country restrain its demand and share the available oil with the other members. Since Canada is a net exporter of energy, it has to share its oil when the IEA triggers its emergency sharing system in times of oil shortage. The trade agreement extends the IEA commitment to include the sharing of natural gas and electricity with existing customers in the event of a shortage.

Under the FTA, Canada still has the ability to formulate and implement energy policy for the benefits of Canadians. Hydro utilities that export electricity must still first serve their provincial markets and then their neighboring provinces, before exporting to the United States. And Canada can continue to provide incentives for oil and gas exploration development to generate future supplies. There is, of course, the possibility that the requirement for energy sharing may, at some future date, exacerbate a tight supply situation within Canada. The likelihood of such an event occurring is not great, however, so that the potential disadvantages that it might entail would be limited to relatively brief periods. Conversely, the benefits of secure access to the U.S. market will be continuing ones and will lead, over time, to advantages that considerably outstrip any potential disadvantages.

The most important issue with respect to the security of supply lies in Canada's ability to influence the pace of development of new energy reserves. In the past, natural gas reserves were formally set aside by the National Energy Board, and producers held reserves idle to meet forthcoming needs. In 1987, however, the NEB decided not to dictate what reserves had to be set aside, and Canadian gas distributors now have to negotiate long-term contracts with producers to ensure that future supplies are adequate. In effect, producers and consumers (as represented by the distributors) will jointly carry the responsibility of achieving the security of supply. (Provincial agencies - the

Alberta Energy Resources Conservation Board, for example - will continue to regulate such technical matters as the appropriate rates of production for conservation purposes.) As for electricity, a provincial utility is now compelled to offer power to neighbouring provinces before it can make long-term commitments to U.S. customers. In contrast, oil supplies have never been sold on long-term contract; the security of oil supply is based on stockpiling and on international transactions endorsed by the IEA.

By guaranteeing the continuity of Canadian energy supplies to the large U.S. market, Canada has paved the way for expanding its own oil, gas, and hydro-electric development - projects that are usually large in scale and expensive. This is particularly important in the oil sector, because Canada's conventional sources of light crude are rapidly declining and the new-found security of access will facilitate investments in the high-cost energy projects in the Beaufort Sea and on the East Coast. The security of access is vital for the future development of Canada's frontier natural gas resources: they cannot be developed unless Canada has access to market large enough to absorb large increases in natural gas supply. The security of market access should also accelerate exploration work in traditional oil and gas reserves and foster further development of the Alberta oil sands.

Over the longer term, then, the agreement will reduce some of the market risks that tend to impede large-scale development.

But, in our opinion, the demand for energy and the world price of energy, not the trade agreement or the National Energy Board, will remain the main factor determining the timing of new energy megaprojects.

As far as pricing is concerned, the agreement does not eliminate the opportunity for Canadian electricity-exporting firms to strike a more favourable price for Canadian-exported energy than they could get in Canada. Canadian utilities are free to obtain the best contractual price that they can get for their exports. What has changed is that governments can no longer intervene directly to set export prices.

Some Canadians have expressed concern that the trade agreement takes away the policy option for governments to have a two-price system for energy, with export prices at world levels and domestic prices, at least to industrial users, at lower levels. It is argued if the domestic energy price is lower than the export price, then it is possible to improve our comparative advantage, and thus our export potential, for energy-intensive manufacturing industries.

However in our view the rejection of the two-price system is a sound decision on economic grounds. Canada's recent experience with the National Energy Policy (NEP) demonstrated the shortcomings of the two-price system within Canada. The NEP, by transferring revenues from producers to users of energy products,

created tensions between producing and consuming provinces and between the federal government and the producing provinces. Furthermore, setting the domestic energy price artificially lower than the international price discouraged investments in new sources of supply and encouraged consumers to pospone energy-saving decisions and, as such, wasted energy. Lower domestic energy prices also encouraged over-investment in energy-intensive industries and diverted capital from other sectors of the economy where it could have been used more productively.

There is another important reason for not subsidizing Canadian industries by keeping their energy prices artificially low. Such action could be construed as a subsidy to the manufacturing sector under the GATT rules and invite countervailing duties against Canadian exports. Our manufacturing industries, as a result, could suffer.

Alcoholic Beverage Industry

Although the alcoholic beverage industry is a comparatively small one in terms of sales and employment, the FTA's potential effects on this industry are of considerable interest. First, it has been acknowledged, by both supporters and opponents of the FTA, that Canadian winemakers and grape growers could be hurt, perhaps quite badly, by the agreement. Thus it is no accident that the winemakers have been in the forefront of domestic opposition to the deal. Second, because alcoholic beverage sales are very heavily regulated in both countries, trade liberalization in this sector poses challenging institutional problems. Third (and related to the previous point) is the fact of state/provincial jurisdiction. Whether the states, and in particular the Canadian provinces, will be willing to give up their authority over this industry is an open question. At least one Canadian premier, David Peterson of Ontario, has indicated that he will not implement the alcoholic beverage provisions of the deal.[33] In any case, so elaborate are existing state/provincial regulatory apparatuses that bringing provincial legislation into line with FTA will be a tough job, even in provinces whose premiers support the agreement.

The alcoholic beverage industry now looms large on the multilateral scene, as well.[34] A preliminary GATT panel ruling, confirmed November 10, 1987, said that Canada's various provincial liquor regulations violate international rules against

discriminatory trade barriers. The panel said Canada should give national treatment to foreign beer, wine, and spirits. [35] Canada and the European Community, which brought the complaint, have thus far been unsuccessful in attempts to negotiate a solution. If the GATT Council were to rule against Canada, and if the federal government decided to comply with the ruling, the effect would be, basically, to extend FTA to a multilateral context.*

Major Elements of the Agreement

- The agreement grandfathers existing national practices with respect to beer and other malt liquor, but both countries retain their GATT rights and obligations with respect to those beverages.

- Tariffs on wines and alcoholic beverages will be phased out in ten equal annual installments, commencing January 1, 1989.[37]

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* As we go to press, we have learned that Canada has accepted a GATT ruling that provincial pricing, listing and distribution practices unfairly discriminate against imported wine, spirits and beer. The federal government will, however, implement only that part of the ruling that relates to wine and spirits. The government will be working with the provinces to change their pricing and listing practices with respect to wine and spirits. Canada will have a period of 9 months, i.e. until the end of the calendar year, to consult with the provinces and make those changes needed to implement the GATT decision. Canada has decided not to act now on the section of the GATT ruling pertaining to beer.

- Differential markups (other than the actual cost-of-service differential) imposed by liquor commissions between Canadian and American products are to be eliminated, but according to different time periods for spirits and for wines. Differential spirits markups are to be eliminated immediately (January 1, 1989). Differential wine markups are to be eliminated over a six-year period, commencing January 1, 1989. But the phase-out of markup differentials has been "front-end loaded," with 25 per cent of the differential to be eliminated January 1, 1989, 25 per cent January 1, 1990, and the remaining 50 per cent in five equal installments on the first day of each of the five succeeding years.

- Price differences due to actual cost-of-service differentials for provincial liquor commissions will be permitted. This differential may only reflect the audited difference between the cost of service for the U.S. product which exceeds the comparable cost for the Canadian product. It does not apply to transportation costs as such.

- Listing practices are to be nondiscriminatory, as between Canadian and American spirits and wines. Listing measures are to be based on normal commercial considerations and are not to constitute disguised barriers to trade. Listing criteria are to be published and made generally available to the public. There is to be an administrative appeal process for listing decisions. But despite the above, automatic listing practices

for the B.C. estate wineries existing as of the date the draft was signed (October 4, 1987) meeting the current local content rule and producing less than 30,000 gallons annually are to be grandfathered.

- National treatment will automatically be provided for distribution systems and practices for wines and spirits, except as follows:

  a) on-premise sale of wines or spirits at the distillery or winery will be permitted;

  b) private wine store outlets existing as of October 4, 1987 in Ontario and British Columbia will be grandfathered;

  c) the province of Quebec may continue to require that all wines sold in grocery stores be bottled within the province. However, other provinces cannot now impose such a requirement.

Price Effects

Eliminating existing provincial markup differentials will change the relative prices of Canadian and American wines substantially. For example, although a bottle of "bottom-of-the-line" California wine now lists at a landed price which is about 84¢ cheaper than that of the comparable Ontario wine, it sells for 70¢ more in that province owing to the markup differentials and various other non-tariff barriers. Once all the markup differentials have been removed (January 1, 1995), the California wine will be selling for about 70¢ less than the similar Ontario wine.[38] Assuming the

province chose to equalize differentials by lowering the price of the American wine rather than by raising the price of the Canadian one,[39] the former would become 35¢ cheaper in each of the first two years of the agreement, and 14¢ cheaper in each of the next five years. In British Columbia, the effects are expected to be s ightly larger still.[40]

Likely Impacts

On the whole, FTA is expected to offer very modest gains to the Canadian distilling industry because it has little impact on its American counterparts. Canadian rye whiskey, this country's most important alcoholic beverage export to the U.S., is already well established in U.S. markets, where it does not appear to be competing very much with bourbon whiskey. As well, tariffs for distilled liquors and even non-tariff barriers, such as differential price markups, do not now appear to be interfering with trade in this sector to any great extent. These markup differentials, it should be noted, are extremely modest for spirits; they range from 0 per cent in some provinces to 15 per cent in others. It is generally agreed that elimination of tariffs and differential price markups is unlikely to have enough effect to induce consumers to change established spirit buying patterns.

As for wines, our analysis suggests that national wineries (as well as the growers supplying them with wine grapes) will be

adversely affected, with the strongest impact being felt in British Columbia,[41] and somewhat lesser impacts in Ontario, New Brunswick, and Nova Scotia. The wine industry is likely to undergo some contraction and rationalization in the years ahead. The large, all-purpose wineries are likely to feel these impacts more than small estate or specialty wineries.[42] The exact size of the impact will depend upon such things as the extent to which California wines are used as substitutes for Canadian as opposed to European wines, possible changes in provincial tax policy, changing patterns of consumption for wines as compared to beer and spirits, and various other institutional factors. Most important of all, in this connection, are the forthcoming GATT Council decision and the Federal government's response to that decision.

The situation is more problematic for the winemakers. While, except in B.C., they might well be able to adjust to <u>bilateral</u> free trade <u>multilateral</u> free trade would appear to present major adjustment problems for winemakers in all provinces. Here again, the forthcoming GATT Council decision will be crucial. And if the GATT Council rules against Canada with respect to beer, an item not included in the FTA, this country's brewers could face similarly severe adjustment problems, given the U.S. brewing industry's present excess capacity.[43, 44]

Dispute Settlement Mechanisms

The Agreement's dispute settlement mechanisms, which were the subject of considerable controversy during the negotiations, will influence the degree of access Canadian manufacturers and producers have to American markets. The mechanisms outlined in the agreement include one for anti-dumping (AD) and countervailing duty (CVD) cases, consultative provisions for financial services, and a mechanism for all other matters coming under the FTA, or the institutional provisions mechanism.

Institutional Provisions

Disputes arising under both the FTA and GATT may be settled in either forum, as the complaining party wishes. However, once the dispute settlement provisions of the FTA or of GATT have been invoked, these provisions alone are to be used. Implementation of the agreement is to be under the general supervision of a Canada-United States Trade Commission, which will meet at least once a year to review the overall functioning of the agreement. These sessions are to be held alternately in the two countries. The Commission may establish ad hoc or standing sub-committees or draw on outside experts for advice, as it sees fit, and is to be free to establish its own rules and procedures. All the Commission's decisions are to be made by consensus.

When a dispute outside of the AD/CVD or financial services is brought to the Commission's attention, the resolution process is as follows: notification of potential problem, consultation, and then either binding arbitration or advisory decision by panel. There are few precise rules concerning notification, although the agreement does state that upon request of the other party, a party is to provide information and respond to questions pertaining to any matter relevant to the agreement. Similarly, either party may seek consultations regarding any measure it thinks affects the functioning of the agreement. If these consultations do not produce a solution within 30 days, either party may request a Commission meeting, which must normally take place within 10 days. In essence, the Commission would be playing the role of a mediator.

If the parties then agree on a resolution, they may take whatever mutually agreed measures they wish; if, on the other hand, the dispute has not been resolved within an agreed period, the matter will be referred to a panel for resolution.

Binding arbitration by panel is mandatory in the case of safeguard disputes, i.e. cases in which one party claims serious injury due to imports from the other resulting from the elimination or reduction of duties under the agreement. In this case, the main purpose of the arbitration is to decide whether increased imports from the other party alone can be said to constitute a substantial cause of serious injury and if they do,

what is appropriate compensation for the injured party. Otherwise, binding arbitration is to be used only when both parties agree to it. However, either party may refer the matter in question to a panel for an advisory (non-binding) decision. The panel, like the commission, has the right to establish its own procedural rules; however, these rules shall assure a party at least one hearing before the panel, as well as confidentiality and the right to present written submissions and rebuttals.

All panels, whether binding or advisory, are to consist of five people selected from a roster, at least two of whom will be Canadian and two U.S. citizens. If there is no agreement on the fifth member, who could exercise the deciding vote, the other members of the panel will choose the final candidate either through consultations or by lot. After submission of an initial report, normally to be completed within three months after the appointment of the panel's chairman, to the two parties, the parties will have two weeks to state in writing their objections and the reasons for those objection. The panel may, at this point, reconsider its initial report in light of the parties' response. It then has 30 days to prepare a final report, which will normally (though not invariably) be the basis of the Commission's resolution of the dispute. When possible, the solution should be removal of a measure not conforming with the agreement; failing that, the injured party may be awarded compensation. When there is not unanimity, panelists may issue individual opinions, which must be published at the request of

either party. The voluntary nature of the settlement mechanism, except in safeguard cases, raises legitimate and significant concerns.[45]

AD/CVD Mechanism

The AD/CVD mechanism is generally acknowledged to be a medium-term stopgap to be used while the two countries attempt to develop alternatives to existing AD/CVD arrangements over a five-to-seven year period. Failure to agree to a new regime would allow either party to terminate FTA on six months' notice. The alternatives are to be developed by a binational working group; however, the agreement provides no information on how this group is to be chosen or what its terms of reference are to be.

Under FTA, each party's home government will continue to enforce domestic anti-dumping and countervailing duty laws, provided that no future changes in those laws can be applied to the other party unless the legislation so specifies, and that the implementing party informs the other party of such potential changes and consults with it upon request. As well, any changes applicable to the other party must be consistent with the GATT Anti-Dumping Code and Subsidies Code, and with the general purpose of the Free Trade Agreement (including that of the dispute settlement mechanisms).

A binational panel (similar to the type described) may issue declaratory opinions with respect to AD or CVD law changes with respect to their consistency with: the relevant GATT codes, the general tenor of the FTA, or previous binational panel decisions. Because of the quasi-judicial nature of the proceedings, at least three members of each panel will be lawyers.[46] Following the issuance of the final AD/CVD order, this panel would review the order, based upon the administrative record, to determine if the investigating authority of either party had made a decision in accordance the domestic law of the party whose AD/CVD order was being challenged; that is to say, if Canada challenged an American CVD order, American law would be the standard applied.

Findings of the panel will be binding on both governments. If the panel rules that AD/CVD legislation is inconsistent with GATT or FTA, its decision will trigger a mandatory 90-day consultation period. Should such consultation not produce a satisfactory solution, the injured party has the choice of taking comparable legislative or equivalent executive action, or terminating the Agreement with 60 days notice. Presumably the prospect of termination provides a reasonably powerful incentive for the parties to arrive at a negotiated settlement.

In addition, there is an extraordinary challenge procedure, involving the convening of a separate panel of three former judges, in cases where a party alleges a member of the original

panel was guilty of misconduct or that the panel manifestly exceeded its powers or jurisdiction.

Comparison to GATT Mechanisms

It has been argued that the agreement's various dispute resolution mechanisms probably will not work very well because they are in many ways quite similar to the comparable GATT mechanisms, which are generally regarded as being weak. But while it is true that there are some broad structural similarities between the CAFTA and GATT mechanisms, such as their division into a general, or institutional regime and specialized regimes designed to handle particular problems such as those posed by non-tariff barriers, there are also some important differences.

While both sets of mechanisms have, in the words of the French trade expert G.L. De Lacharrière, retained many features typical of mediation-conciliation mechanisms, those of the FTA tend to be somewhat more legalistic. For one thing, the implementation procedure of FTA's institutional mechanism is somewhat more rigorous, than that of GATT since it includes the possibility of compensation to the injured party. More important, the FTA AD/CVD mechanism sets out stricter time limits and more rigid procedures for selecting panelists than does the comparable GATT mechanism. The issue of speed is far from a trivial one; under GATT, some cases have taken several years, whereas the maximum allowable under FTA (barring a deflection due to the extraordinary challenge

procedure) is 315 days, or appreciably less than one year. As Washington lawyer Gary Horlick has remarked, "Justice delayed is justice denied." The longer legal cases of any type tend to drag on, the more the feasibility of bringing them is restricted to the wealthy and powerful, who can afford the massive legal fees involved. It is for reasons such as these that former International Joint Commission chairman Maxwell Cohen, a man whose approval of the free trade agreement has been far from unqualified, suggests that the FTA dispute settlement provisions represent a distinct improvement over those of the GATT.[47]

Likely Impact

What is the impact of the dispute settlement mechanisms likely to be? This is an extremely difficult, if not impossible question to answer at all precisely, given that we will not really know just how well these mechanisms work until we have seen them in operation.

Certain aspects of these mechanisms, however, suggest that there are grounds for optimism. For one thing, the strict time limits for each stage of the AD/CVD process should allow for a much speedier resolution of these cases than has generally been possible in the past. As well, the binding arbitration process for safeguards disputes removes a potential source of friction in another important area.

More generally, by establishing some definite rules for the resolution of disputes, the mechanisms may well contribute to an improved investment climate in this country. This is particularly the case with respect to investment in the energy sector, which is expected to receive about one-half of the added investment generated by the agreement (see Section III). In this case, improved security of access to the U.S. market could reduce the uncertainty associated with future demand for such energy products as oil, natural gas, uranium, potash, and hydro electricity, thus making investment in the energy sector a much more attractive proposition than it now is.

SECTION V

Conclusion

The objective of this paper has been to quantify the impact of the Canada-U.S. free trade agreement on the Canadian economy by industrial sector and by province, using the methodology of Discussion Paper No. 331. As in our earlier study, we have developed two free trade scenarios with the CANDIDE Model (with and without productivity improvements).

The important findings of this study are:

- FTA will eliminate tariffs over 10 years, starting in January 1, 1989. It will eliminate a tax on consumers and producers, worth over $2 billion annually.

- The Canada-U.S. free trade agreement will increase output, real income and employment, lower prices, stimulate business investment, and strengthen the Canadian dollar vis-à-vis the U.S. currency (in nominal terms) over the longer term. However, the free trade agreement will worsen the current account balance and increase Canada's reliance on foreign savings.

- In the second, most likely scenario (with productivity improvements), real GNE will be 2.5 per cent above the base case level. Employment will rise by 1.8 per cent, adding 251,000 new

(net) jobs by the year 1998. However, if free trade with the U.S. is not accompanied by productivity improvements, the stimulus to output and employment would be substantially lower (about 30 per cent of the gains in Simulation 2).

- Since tariffs are gradually phased out over 10 years, starting in 1989, the short-to-medium-term gains in output and employment will be substantially smaller than the longer-term gains in the free trade scenarios.

- Our estimates suggest that, on average only about 25 per cent of the two countries' existing non-tariff barriers, as identified and quantified in Discussion Paper No. 331, are removed by the free trade agreement.

- Similarly, the impact of the provisions for federal government procurement on Canadian exports and imports is substantially smaller than our earlier estimates, because of the limited scope of the agreement in this area.

- Differences in NTBs and federal government procurement provisions explain the discrepancy between the new results and our earlier estimates. Our new estimates of output and employment gains from free trade are 70 to 75 per cent of the earlier ones, reported in Discussion Paper No. 331.

° As in our earlier study, in Simulation 2, most of the industries studied (29 out of 36) will expand under Canada-U.S. free trade. Of the seven trade-negative manufacturing industries, six are in the non-durable manufacturing industries. All these industries receive a relatively large amount of trade protection in Canada, and all are already facing stiff competition from the low-wage developing countries. However, the net loss in jobs (under 20,000) in the seven trade negative industries will be fairly small, compared to the overall gains in employment, which will provide opportunities for workers to adjust to ongoing changes in comparative advantage in the world economy.

° However, in Simulation 1, where no allowance is made for gains in manufacturing productivity, 17 of the 36 industries (16 of them in manufacturing) will experience a net decline in output and employment, compared to the base case situation. In Simulation 1, net employment in these 17 industries could decline by 37,000, compared to the base case levels, demonstrating that most manufacturing industries will have to undertake revitalization measures in order to cope with the free trade agreement.

° The benefits of free trade will be distributed fairly evenly across all provinces. Since the service industries are major beneficiaries of the gains in output and employment and are fairly evenly distributed across all provinces, regional variations in output and employment gains from the free trade

agreement will be quite small. However, Ontario and Quebec will gain slightly less than average (in percentage terms) because of their large manufacturing base. Nonetheless, these two provinces will receive about 60 per cent of the overall gains in output and employment.

In summary, our simulation results suggest that bilateral free trade with the U.S. would provide significant benefits to Canada and that these gains would be distributed fairly evenly across all ten provinces.

In addition, our assessment of both the upside and downside risks in Section 3 indicates that on balance our simulation results might be underestimating the beneficial effects of the free trade agreement in Canada, because we have not captured the impact of many important provisions of the agreement (e.g. a more secure and more open access to the U.S. market for Canadian exports of agricultural and energy products and services).

Furthermore, without the free trade agreement, Canadian access to the U.S. market could deteriorate substantially because of U.S. protectionism (the pending Omnibus Trade Bill is a case in point). In effect, the lack of secure access to the U.S. market would reduce exports and business investment in Canada, although the size of these losses would obviously depend on the scope and the detail of future U.S. trade actions against Canada.

Notes

1 See Cline (1982), and Hufbauer and Schott (1985).

2 See ECC (1975, 1983, 1985, 1986, and 1987b).

3 ECC (1985), and Lipsey and Smith (1985).

4 See ECC (1987b), and Magun, Rao and Lodh (1987).

5 Market opportunities need not necessarily lead to increased exports, see Section 2 for more details.

6 The results should not be interpreted as long-term, full equilibrium results. These can only be generated using a General Equilibrium Model.

7 See ECC (1975) Wonnacott, Daly (1984), Wonnacott (1967), Wonnacott (1987), Lipsey and Smith (1985).

8 See Lipsey and Smith (1985).

9 Royal Commission (1985), Lipsey and Smith (1985), and Baldwin (1976).

10 See Brown and Stern (1986), Whalley (1985), and Wigle (1986).

11 See Wonnacott (1985).

12 For a discussion of the structure and the properties of CANDIDE Model, see Magun, Rao and Lodh (1987).

13 See Article 702 in Chapter seven of the Canada-U.S. Free Trade Agreement.

14 A detailed deascription of the procedure used to estimate the tariff schedules is given in Appendix A.

15 See Cline (1982), Hufbauer and Schott (1985), and Lipsey and Smith (1985).

16 For a detailed list of the main elements regarding the elimination of non-tariff barriers in the two countries, see Chapter 4, 5 and 6 of the Canada-U.S. Free Trade Agreement.

17 For a detailed discussion of the U.S.-Canada productivity estimates, and scale economies and rationalization, see Rao (1987) and Magun, Rao and Lodh (1987).

18 For example, a survey of major multinational firms, are for the Council, with establishments on both sides of the border suggested that the free trade agreement would significantly increase sales, exports and business investment in Canada, see Rugman (1988).

19 If we do not impose revenue neutrality on the model, free trade impacts on real output and employment would be higher. However, these gains came at the expense of higher consumer prices and larger federal budget deficits. For example, in the absence of revenue neutrality, real GNE could be 0.5 per cent higher and create an additional 50 thousand jobs. But, federal government budget deficit could increase by $3.0 billion (see Table 20).

20 Transitional impacts are computed using the actual phasing-in provisions of the FTA with respect to tariffs and NTBs. In Simulation 2, productivity improvements are assumed to occur somewhat faster than the reduction in Canadian tariff barriers because Canadian manufacturers are well aware of potential new opportunities under the FTA and take necessary steps to rationalize their operations and improve their productivity to compete in the free trade area.

21 See Chapter 7 of the Canada-U.S. Free Trade Agreement.

22 See Fuss and Waverman (1986), and Wonnacott (1987).

23 See Bank of Canada (1987).

24 See Chapter 10 of the Canada-U.S. Free Trade Agreement.

25 Under the old formula, items such as overhead and indirect costs could be included in the 50 per cent calculation.

26 For the list of services covered by the free trade agreement, see The Canada-U.S. Free Trade Agreement, External Affairs Canada, December 1987.

27 For details, see Chapter 15 of the Canada-U.S. Free Trade Agreement.

28 See the final report of Task Force on Trade in Services, Ottawa, 1982.

29 For example, in 1984 Canadian service receipts from the U.S. were about $2.5 billion and the payments to that country were around $4.9 billion. However, it should be acknowledged that the data on services trade is plagued by measurement problems. For example, the size of service flows captured by the data depend on the type of corporate structure (branch vs subsidiary).

30 In 1985 Canada had the equivalent of 60 per cent of the stock of U.S. direct investment in Canada, compared to a mere 17.6 per cent in 1975. For a detailed discussion of the developments, see Rugman (1988).

31 See Chapter 20 of the Canada-U.S. Free Trade Agreement.

32 See the testimony of Mr. R. MacIntosh, President of the Canadian Bankers' Association, before the House of Commons Standing Committee on External Affairs and International Trade on November 4, 1987.

33 See, among many others, "Ontario won't scrub foreign wine markups despite free-trade agreement, Peterson says," in Ottawa Citizen, Dec. 30, 1987.

34 See, for instance, "Canada unfairly protecting beer, wine and liquor industries, GATT rules," in Montreal Gazette, Nov. 11, 1987. On the same subject, see also Paul Bilodeau, "Wineries, brewers angered by ruling" in Toronto Star, Nov. 12, 1987, and "Rae demands Peterson battle trade decision" in Toronto Star, Nov. 13, 1987.

35 High differential price markups for wine in such provinces as Ontario and British Columbia were of particular concern. Spirits is not considered a major concern because of the relatively low markup differentials.

36 The most major concern for Canada is the GATT decision's potential effect on beer, specifically the possibility that the brewing industry may be opened up to competition from the much larger American industry.

37 Tariffs on rye and rum were eliminated immediately, at the request of the Canadian distillers of those products.

38 This information was obtained from the pricing division of the Liquor Control Board of Ontario (LCB). Gallo was the American wine used in the comparison, Bright's, the Ontario wine.

39 In principle, the provinces may equalize markups either by raising the price of Canadian wine or by lowering that of California wine. But they are being strongly encouraged to use the latter method in order to lessen the hardship on Canadian winemakers, as raising the price of Canadian wine would hurt its competitiveness not just vis-à-vis other wines but also in comparison to beer and spirits.

40 According to The Globe & Mail, the reduction on a bottle of imported wine selling in B.C. would be just over $1.50. See "Drop in price of wine, liquor from U.S. will likely be minimal in most provinces," in the Globe's October 13, 1987 edition.

41 This is because sales of California wines are already greatest in B.C., the province closest to California, and (as noted in the previous footnote) price impacts from free trade in wine appear to be greatest there. In "Free Trade with the U.S.," a position paper presented to the B.C. Ministry of Economic Development in 1987, that province's Wine Council suggested (p. 17) that "Unchecked Free Trade...would result in the immediate demise of the B.C. wine industry." The industry estimates that it would need five to ten years to adjust to bilateral free trade (the paper, of course, was prepared before the GATT ruling described in this study). Similarly, a 1987 study of the effects of bilateral free trade in alcoholic beverages conducted by A. Anastasopoulos, I. Irvine, and W.A. Sims of the Institute of Applied. Economic Research at Sir George Williams University showed greater employment effects in B.C. than in Ontario and Quebec, two other major wine-producing provinces.

42 See, for instance, "Canada's wine industry pawn in free trade deal -- Logan," in Halifax Chronicle-Herald, Oct. 9, 1987. In that article, two Nova Scotia estate winemakers were quoted as saying they expected little effect on their firms from bilateral free trade.

43 A June, 1987 study by the Scotiabank Economics Department, "Free Trade in North America," put the brewing industry, along with textile manufacturers and poultry producers, in their highest risk category. This study indicated that excess capacity of U.S. brewers is more than three times the entire Canadian market and apparently agreed with the Brewers' Association contention that it would take up to 15 years and cost $2 billion to make the domestic brewing industry competitive with its American counterpart.

44 "Scrap brewing as liquor talks fail in Europe," in Ottawa Citizen (page 1 article), Feb. 2, 1988.

45 Robert Latimer, quoted in Oliver Bertin, "Farm experts have little faith in trade tribunal," in Globe & Mail Report on Business, October 29, 1987.

46 As in the case of jury trials, each party is allowed a certain number (four, see Agreement, p. 285) of "peremptory strikes," or vetoes of potential panelists.

47 Even with respect to speed, certain aspects of the AD/CVD mechanism are cause for concern. For instance, here is an extraordinary challenge procedure which may be invoked in cases where a party alleges that a panel member was guilty of gross misconduct, bias, or conflict of interest, that the panel seriously departed from a fundamental rule of procedure,

or that the panel manifestly exceeded its powers or jurisdiction. In such cases, either government can convene another panel of three former judges, whose job it will e to determine the validity of the allegations and the need (or lack thereof) to establish a new panel to review the issues. Should this procedure be used at all frequently, as some legal scholars think it will, it could seriously impede the effectiveness of the AD/CVD regime. Another concern with respect to that regime is the requirement that a majority of panelists be lawyers.

APPENDIX A

Estimation of Tariff Path by I/O Commodity and Industry Under the Canada-U.S. Free Trade Agreement, Canada and the U.S.

The estimation procedure of tariffs by I/O commodity and industry has called for the use of three essential inputs: a) the concordance of Harmonized System of commodity classification to CITC (Canadian International Trade Classification); b) the concordance of CITC to I/O commodity; and c) the trade volumes (imports) appropriate to each HS (Harmonized System) commodity. The first task (a) is a difficult process since HS-CITC concordance is not yet completed by Statistics Canada. Instead, we have obtained CITC-HS concordance which is not symmetrical with HS-CITC i.e., it is not uniquely possible to get HS-CITC from CITC-HS. Requirements by (b) and (c) are, however, somewhat fulfilled with the help of Statcan and the Trade Negotiations Office, Ottawa, although the estimates of imports by HS still remain problematic i.e., a lot of judgment has entered into imports by HS based on CITC. Data of imports by HS refer to 1985 figures and relate to imports of Canada from the U.S. and conversely. The Canada-U.S. FTA tariff schedules by HS (Annex 401) provide the final input to obtain the various stages of tariff reduction: Stage A refers to 1 year, Stage B refers to 5 years, Stage C refers to 10 years and Stage D without any tariff reduction since it refers to duty-free imports. Tariff reductions are linearly implemented over time, viz, 1-year tariffs

are eliminated in 1 year, 5-year tariffs are reduced in 5 equal steps annually, and so on.

Given the type of HS-CITC data problems we face, we have followed a pragmatic approach to the estimation of tariffs by I/O commodity, using the following assumptions:

1) the CITC-HS correspondence by STATCAN is taken as a first approximation;

2) if one CITC enters in many HS categories, we allocate those HS directly to some I/O commodities (at the medium level) using our best judgment;

3) the CITC-I/O concordance from Statcan is then applied to the overall set;

4) base rate tariffs by HS commodities given in Annex 401 of tariff schedules of Canada and the U.S. are applied to trade volumes (dutiable plus non-dutiable) to get a weighted average of the tariff rate by the I/O commodity.

   (Annex 401 tariffs, it should be noted, are not necessarily representative of actual tariffs which are generally less than the base rates equivalent to the MFN rates.)

Our initial results based on the above qualifications show that in more than 90 per cent of cases we are within or near the ballpark estimates of tariffs by I/O commodity provided in ECC Discussion Paper No. 331. We, therefore, proceeded with the use of these tariffs for per cent reduction calculations by I/O commodity over 1989-1998 including these items which do not match. The absolute tariff levels of tariffs shown in DP No. 331 remain our base rates for Post-Tokyo Round tariffs against which the fall in tariffs by I/O commodity is traced out over 1989-1998.

Aggregate Picture of Canada-U.S. HS Schedules and Trade Volumes by Stages of Tariff Reduction

Before we provide the detailed estimates of tariff reduction by I/O commodity, one important aggregate picture is presented here to show the extent of dutiable and non-dutiable trade between Canada and the U.S. by stages of tariff reduction and the number of HS schedules. Table A highlights this. It needs to be stressed that estimates of total imports (dutiable plus non-dutiable) of Canada and the U.S. from the other country by HS and by stage of tariff reduction have been obtained from the Trade Negotiations office in Ottawa. Also, these estimates have been adjusted to conform to some rough-and-ready rules to derive dutiable and non-dutiable imports as advised by the Trade Negotiations office. The figures may not be exact but show some interesting features. The major findings are:

1) In 1985, 66 per cent of Canadian imports from the U.S. entered Canada duty free. Likewise, 72 per cent of U.S. imports from Canada went to the U.S. in that year.

2) the distribution of tariff schedules by stages (in per cent) is roughly similar in both countries for Stage A and Stage C but slightly different for Stage B and Stage D;

3) the distribution of trade volumes by stages with respect to dutiable trade is not remarkably different in the two countries, the volume of trade open to tariff reduction in Canada is about $25 billion and in the U.S. about $19 billion (in terms of 1985 figures); the burden by trade coverage mostly falls on Stage B and Stage C with Stage B slightly higher than Stage C for the U.S. and Stage C higher than Stage B for Canada; this seems to suggest that Canada has retained a larger portion of dutiable trade for tariff reduction at a later stage than the U.S.

The Estimation Procedures of Tariff Path by I/O Commodity and Industry, Canada-U.S., 1989-1998

The following system of equations is used for estimating the paths of tariff levels by I/O commodity (69 commodities) in Canada and the U.S. over 1989-1998.

$$WT_j^K = \sum_i T_{ij}^K * TtR_{ij}^K / \sum_i TtR_{ij}^K \qquad (1)$$

= weighted tariff in class K (stage) for I/O commodity j where j is the aggregation level containing Harmonized system (HS) commodity i; the concordance of i to j is an essential datum here.

where K stands for class of stage (Stage A for one year, Stage B for 5 years, Stage C for 10 years and Stage D for zero year, i.e. duty-free),

T_{ij}^K = base rate tariff in class K, commodity i belonging to I/O commodity j,

TtR_{ij}^K = total trade (dutiable plus non-dutiable) in class K, commodity i belonging to I/O commodity j.

Now set

$$W_j^K = \sum_i TtR_{ij}^K / \sum_i \sum_K TtR_{ij}^K \qquad (2)$$

= share of total trade in commodity j by class K in the total trade for commodity j over all K's

$$WT_j = \sum_K WT_j^K * W_j^K \qquad (3)$$

= average weighted tariff by commodity j.

At each point of time (t) the tariff level in commodity j, $T_{j,t}^*$, is thus given by:

$$T^*_{j\ t} = \sum_K WT_j^K * (1 - t/k) * W_j^K \qquad (4)$$

where t = 1, 2, 3, 4, ...10

(t = 1 stands for 1989 and t = 10 stands for 1998) and

K = 0, 1, 5 and 10;

provided t < K otherwise $T^*_{j\ t}$ is set equal to zero as in the case of K = 0.

Given the base period (Post-Tokyo Round) tariff rate for commodity j (call it $T_{j\ 0}$ from ECC D.P. #331), the percentage reduction in tariffs is given by

$$P_{j\ t} = (1 - T^*_{j\ t} / W\ T_j) * 100 \qquad (5)$$

and the tariff level for commodity j at time t which is equivalent to $T_{j\ 0}$ is given by

$$T^{**}_{j\ t} = T_{j\ 0} * (1 - P_{j\ t} / 100) \qquad (6)$$

Equation (6) is used for tariff paths of commodity j as well as for the aggregate economy, Canada or the U.S. The tariff path by I/O industry is obtained by multiplying the I/O commodity tariffs by the market share matrix (D matrix in the Canadian I/O system).

Major Observations on the Speed of Tariff Reduction

The results of our calculations at the aggregate level of the goods producing sector in Canada and the U.S. are presented in the Chart A-1 for total imports and Chart A-2 for dutiable imports in the bilateral context. What is particularly of some relevance is that in 1993 there is a slight diminution in the speed of tariff reduction in both Canada and the U.S. This is to be expected as by 1983 stages A and B have already exhausted their roles in tariff cuts and only Stage C is operative.

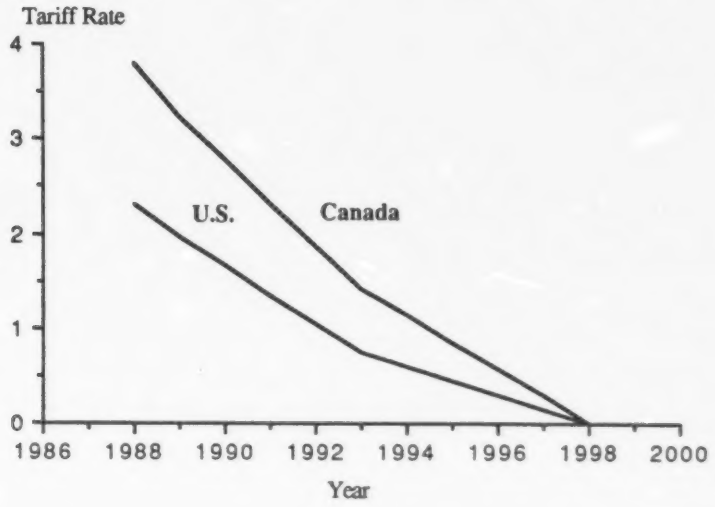
Disaggregated tables of tariff paths by I/O commodity over 1989-1998 are shown in Tables A-1 and A-2 for Canada and the U.S. respectively. It is to be stressed that tariff paths by commodity here are based on the base rate Post-Tokyo Round tariffs reported in the ECC Discussion Paper 331, i.e., these tariffs are taken as the tariffs applicable to the year 1987, which are then applied to the percent changes in tariff reduction following the FTA stages (see the formula in equation (5)). The tariff paths in Tables A-1 and A-2 refer to total imports and not just to dutiable imports from each other's country.

The speed of tariff reduction by industry, displayed in Tables A-3 and A-4, show some interesting features. During the first five years, on average, U.S. tariffs come down somewhat faster than their Canadian counterparts. For example, by 1993, on average, the U.S. tariffs will be reduced by about 68 per cent, compared to 63 per cent in Canada. A larger percentage of U.S. trade volume (imports) in Stage B that is subject to tariffs, relative to Canada, is responsible for the faster pace of tariff reductions in the U.S. However, the absolute amount of tariff reduction during the first five years, hence the size of adjustment pressure, will be significantly higher in Canada than in the U.S., because, on average, the Post-Tokyo Round Canadian tariff levels are substantially higher than their U.S. counterparts (see Tables A-1 and A-2).

Chart A-1

Aggregate Tariff Path of Total Imports for Canada and the U.S. Under Canada-U.S. Free Trade Agreement, 1989-1998

(Percent)

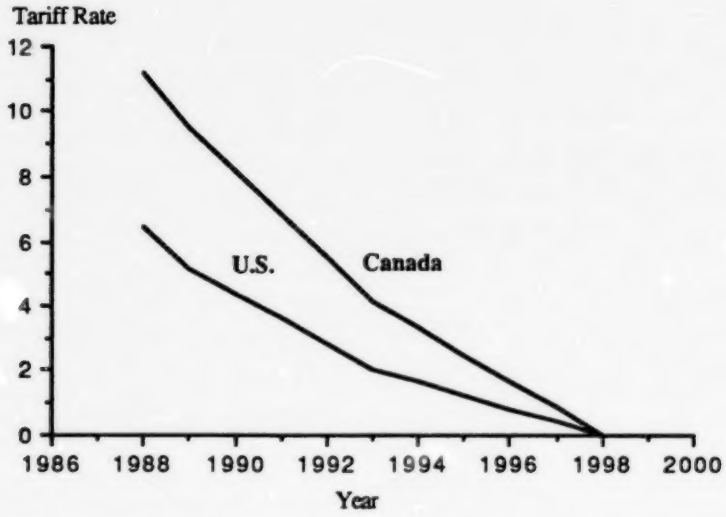


Source Economic Council of Canada estimates based on Canada-U.S. Free Trade Agreement Tariff Schedules, December 1987 with the assistance of the Trade Negotiation Office, Ottawa. Base rate tariffs in 1988 for total imports are based on production weights as reported in the Council's Discussion Paper 331 and are 3.8 and 2.3 percent for Canada and the U.S., respectively.

Chart A-2

Aggregate Tariff Path of Dutiable Imports for Canada and the U.S. Under Canada-U.S. Free Trade Agreement, 1989-1998

(Percent)



Source Economic Council of Canada estimates based on Canada-U.S. Free Trade Agreement Tariff Schedules, December 1987 with the assistance of the Trade Negotiation Office, Ottawa. Base rate tariffs in 1988 for dutiable imports are based on production weights as reported in the Council's Discussion Paper 331 and are 11.2 and 6.5 percent for Canada and the U.S., respectively.

Table A

Distribution of HS Tariff Schedules by Stages and Trade Volumes: Canada-U.S. Free Trade Agreement, Number of HS Tariff Schedules, Dutiable Trade Coverages and Percentages

	Canada				U.S.			
	No. of Schedules	Percent of Total	Estimated Imports from the U.S. in 1985 ($Billions)	Percent of Total	No. of Schedules	Percent of Total	Estimated Imports from Canada in 1985 ($Billions)	Percent of Total
Stage A (1 Year)	209	3	3.8	5	447	5	1.7	2
Stage B (5 Years)	1827	25	8.7	12	1017	10	9.6	14
Stage C (10 Years)	3283	45	12.4	17	4618	48	8.1	12
Stage D (0 Year)	1964	27	48.9(1)	66	3640	37	49.4(1)	72
Total	7283	100	73.8	100	9722	100	68.8	100

1 Duty-free trade estimates based on judgments of actual duties collected rather than MFN rates.
Source Canada-U.S. Tariff Schedule, Annex 401, Canada-U.S. Free Trade Agreement, December 1987 and Trade Negotiations Office, Ottawa

Table A-1
Tariff Level Schedule Under Canada-U.S. Free Trade Agreement by I/O Commodity, Canada, 1989-1998
(Percent)

		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1	Grains	1.79	1.59	1.39	1.19	0.99	0.80	0.60	0.40	0.20	0.00
2	Live Animals	1.34	1.09	0.85	0.60	0.35	0.28	0.21	0.14	0.07	0.00
3	Other Agricultural Products	2.76	2.46	2.15	1.84	1.53	1.23	0.92	0.61	0.31	0.00
4	Forestry Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Fish Landings	0.15	0.12	0.09	0.06	0.03	0.02	0.02	0.01	0.01	0.00
6	Hunting and Trapping Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Iron Ores and Concentrates	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Other Metal Ores and Concentrates	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Crude Mineral Oils	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
11	Natural Gas	0.52	0.47	0.41	0.35	0.29	0.23	0.17	0.12	0.06	0.00
12	Non-metallic Minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Services Incidental to Mining	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	Meat Products	1.98	1.76	1.54	1.32	1.10	0.88	0.66	0.44	0.22	0.00
15	Dairy Products	5.75	5.11	4.47	3.83	3.19	2.56	1.92	1.28	0.64	0.00
16	Fish Products	1.06	0.85	0.64	0.44	0.23	0.18	0.14	0.09	0.05	0.00
17	Fruits and Vegetables Preparations	6.45	5.74	5.02	4.30	3.59	2.87	2.15	1.43	0.72	0.00
18	Feeds	0.58	0.51	0.45	0.39	0.32	0.26	0.19	0.13	0.06	0.00
19	Flour, Wheat, Meal and Other Cereals	5.24	4.66	4.07	3.49	2.91	2.33	1.75	1.16	0.58	0.00
20	Breakfast Cereal and Bakery Products	6.97	6.19	5.42	4.64	3.87	3.10	2.32	1.55	0.77	0.00
21	Sugar	2.88	2.56	2.24	1.92	1.60	1.28	0.96	0.64	0.32	0.00
22	Miscellaneous Food Products	4.89	4.33	3.77	3.20	2.64	2.11	1.59	1.06	0.53	0.00
23	Soft Drinks	11.43	10.16	8.89	7.62	6.35	5.08	3.81	2.54	1.27	0.00
24	Alcoholic Beverages	1.55	1.38	1.21	1.03	0.86	0.69	0.52	0.34	0.17	0.00
25	Tobacco Processed Unmanufactured	8.93	7.94	6.94	5.95	4.96	3.97	2.98	1.98	0.99	0.00
26	Cigarettes and Tobacco Manufactured	16.49	14.66	12.82	10.99	9.16	7.33	5.50	3.66	1.83	0.00
27	Tires and Tubes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Other Rubber Products	9.50	8.45	7.39	6.34	5.28	4.22	3.17	2.11	1.06	0.00
29	Plastic Fabricated Products	10.11	8.98	7.86	6.74	5.61	4.49	3.37	2.25	1.12	0.00
30	Leather and Leather Products	4.11	3.58	3.05	2.52	1.98	1.59	1.19	0.79	0.40	0.00
31	Yarns and Man Made Fibres	6.25	5.55	4.86	4.16	3.47	2.78	2.08	1.39	0.69	0.00
32	Fabrics	18.38	16.34	14.29	12.25	10.21	8.17	6.13	4.08	2.04	0.00
33	Other Textile Products	3.73	3.31	2.90	2.48	2.07	1.66	1.24	0.83	0.41	0.00
34	Hosiery and Knitted Wear	20.29	18.03	15.78	13.52	11.27	9.02	6.76	4.51	2.25	0.00
35	Clothing and Accessories	15.38	13.67	11.96	10.25	8.54	6.84	5.13	3.42	1.71	0.00
36	Lumber and Timber	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	Veneer and Plywood	3.49	3.05	2.60	2.15	1.70	1.36	1.02	0.68	0.34	0.00
38	Other Wood Fabricated Materials	4.60	4.01	3.41	2.82	2.22	1.78	1.33	0.89	0.44	0.00
39	Furniture and Fixtures	11.11	8.73	6.35	3.98	1.60	1.28	0.96	0.64	0.32	0.00
40	Pulp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	Newsprint and Other Paper Stock	3.59	2.69	1.80	0.90	0.00	0.00	0.00	0.00	0.00	0.00
42	Paper Products	5.65	4.24	2.82	1.41	0.00	0.00	0.00	0.00	0.00	0.00
43	Printing and Publishing	1.38	1.04	0.69	0.35	0.00	0.00	0.00	0.00	0.00	0.00
44	Advertising, Print Media	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	Iron and Steel Products	5.36	4.77	4.17	3.57	2.98	2.38	1.79	1.19	0.60	0.00
46	Aluminum Products	1.67	1.43	1.18	0.93	0.68	0.54	0.41	0.27	0.14	0.00
47	Copper and Copper Alloy Products	3.09	2.75	2.40	2.06	1.71	1.37	1.03	0.68	0.34	0.00
48	Nickel Products	2.61	2.05	1.50	0.94	0.39	0.31	0.23	0.16	0.08	0.00
49	Other Non-ferrous Metal Products	0.79	0.66	0.52	0.38	0.25	0.20	0.15	0.10	0.05	0.00
50	Boilers, Tanks and Plates	6.76	5.07	3.38	1.69	0.00	0.00	0.00	0.00	0.00	0.00
51	Fabricated Structural Metal Products	5.93	5.23	4.54	3.84	3.15	2.52	1.89	1.26	0.63	0.00
52	Other Metal Fabricated Products	6.40	5.60	4.80	4.00	3.20	2.56	1.92	1.28	0.64	0.00
53	Agricultural Machinery	0.23	0.17	0.12	0.06	0.00	0.00	0.00	0.00	0.00	0.00
54	Other Industrial Machinery	3.92	2.95	1.98	1.01	0.04	0.03	0.02	0.01	0.01	0.00
55	Motor Vehicles	1.20	1.06	0.93	0.80	0.66	0.53	0.40	0.27	0.13	0.00
56	Motor Vehicle Parts	0.46	0.41	0.36	0.31	0.25	0.20	0.15	0.10	0.05	0.00
57	Other Transport Equipment	5.20	4.60	3.99	3.39	2.79	2.23	1.67	1.12	0.56	0.00
58	Appliances and Receivers, Household	7.08	6.29	5.49	4.69	3.90	3.12	2.34	1.56	0.78	0.00
59	Other Electrical Products	5.60	4.63	3.66	2.69	1.72	1.37	1.03	0.69	0.34	0.00
60	Cement and Concrete Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	Other Non-metallic Mineral Products	5.14	4.47	3.80	3.14	2.47	1.98	1.48	0.99	0.49	0.00
62	Gasoline and Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	Other Petroleum and Coal Products	2.57	2.29	2.00	1.72	1.43	1.14	0.86	0.57	0.29	0.00
64	Industrial Chemicals	5.01	3.77	2.52	1.27	0.02	0.02	0.01	0.01	0.00	0.00
65	Fertilizers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	Pharmaceuticals	4.30	3.81	3.32	2.83	2.34	1.87	1.40	0.94	0.47	0.00
67	Other Chemical Products	5.26	4.09	2.91	1.74	0.57	0.46	0.34	0.23	0.11	0.00
68	Scientific Equipment	3.64	3.17	2.71	2.25	1.78	1.43	1.07	0.71	0.36	0.00
69	Other Manufactured Products	8.34	7.40	6.47	5.54	4.60	3.68	2.76	1.84	0.92	0.00
	Total	3.24	2.78	2.32	1.87	1.42	1.14	0.85	0.57	0.29	0.00

Source Estimates by the Economic Council of Canada based on Canadian tariff schedules, Canada-U.S. Free Trade Agreement, December 1987 with the assistance of the Trade Negotiation Office, Ottawa. Base tariff rates by commodity for 1988 are taken from Economic Council of Canada Discussion Paper 331, August 1987.

Table A-2

Tariff Level Schedule Under Canada-U.S. Free Trade Agreement by I/O Commodity, U.S.A, 1989-1998

(Percent)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1 Grains	0.99	0.88	0.77	0.66	0.55	0.44	0.33	0.22	0.11	0.00
2 Live Animals	0.80	0.60	0.40	0.20	0.00	0.00	0.00	0.00	0.00	0.00
3 Other Agricultural Products	4.14	3.68	3.22	2.76	2.30	1.84	1.38	0.92	0.46	0.00
4 Forestry Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 Fish Landings	1.22	0.94	0.66	0.39	0.11	0.09	0.07	0.04	0.02	0.00
6 Hunting and Trapping Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Iron Ores and Concentrates	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8 Other Metal Ores and Concentrates	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 Crude Mineral Oils	0.24	0.18	0.12	0.06	0.00	0.00	0.00	0.00	0.00	0.00
11 Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 Non-metallic Minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Services Incidental to Mining	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 Meat Products	0.98	0.87	0.76	0.65	0.54	0.43	0.32	0.22	0.11	0.00
15 Dairy Products	9.18	8.16	7.14	6.12	5.10	4.08	3.06	2.04	1.02	0.00
16 Fish Products	0.71	0.63	0.54	0.45	0.36	0.29	0.22	0.15	0.07	0.00
17 Fruits and Vegetables Preparations	6.12	5.44	4.76	4.08	3.40	2.72	2.04	1.36	0.68	0.00
18 Feeds	0.72	0.64	0.56	0.48	0.40	0.32	0.24	0.16	0.08	0.00
19 Flour, Wheat, Meal and Other Cereals	3.42	3.04	2.66	2.28	1.90	1.52	1.14	0.76	0.38	0.00
20 Breakfast Cereal and Bakery Products	0.09	0.08	0.07	0.06	0.05	0.04	0.03	0.02	0.01	0.00
21 Sugar	14.94	13.28	11.62	9.96	8.30	6.64	4.98	3.32	1.66	0.00
22 Miscellaneous Food Products	2.61	2.32	2.03	1.74	1.45	1.16	0.87	0.58	0.29	0.00
23 Soft Drinks	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.10	0.05	0.00
24 Alcoholic Beverages	4.23	3.76	3.29	2.82	2.35	1.88	1.41	0.94	0.47	0.00
25 Tobacco Processed Unmanufactured	10.17	9.04	7.91	6.78	5.65	4.52	3.39	2.26	1.13	0.00
26 Cigarettes and Tobacco Manufactured	8.91	7.92	6.93	5.94	4.95	3.96	2.97	1.98	0.99	0.00
27 Tires and Tubes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28 Other Rubber Products	9.90	8.80	7.70	6.60	5.50	4.40	3.30	2.20	1.10	0.00
29 Plastic Fabricated Products	9.90	8.80	7.70	6.60	5.50	4.40	3.30	2.20	1.10	0.00
30 Leather and Leather Products	0.32	0.28	0.23	0.19	0.15	0.12	0.09	0.06	0.03	0.00
31 Yarns and Man Made Fibres	7.47	6.64	5.81	4.98	4.15	3.32	2.49	1.66	0.83	0.00
32 Fabrics	9.45	8.40	7.35	6.30	5.25	4.20	3.15	2.10	1.05	0.00
33 Other Textile Products	6.12	5.44	4.76	4.08	3.40	2.72	2.04	1.36	0.68	0.00
34 Hosiery and Knitted Wear	12.78	11.36	9.94	8.52	7.10	5.68	4.26	2.84	1.42	0.00
35 Clothing and Accessories	9.63	8.56	7.49	6.42	5.35	4.28	3.21	2.14	1.07	0.00
36 Lumber and Timber	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37 Veneer and Plywood	0.98	0.75	0.53	0.31	0.08	0.07	0.05	0.03	0.02	0.00
38 Other Wood Fabricated Materials	2.52	1.94	1.37	0.79	0.21	0.17	0.13	0.08	0.04	0.00
39 Furniture and Fixtures	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.00
40 Pulp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41 Newsprint and Other Paper Stock	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42 Paper Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43 Printing and Publishing	0.60	0.53	0.47	0.40	0.33	0.27	0.20	0.13	0.07	0.00
44 Advertising, Print Media	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45 Iron and Steel Products	3.24	2.88	2.52	2.16	1.80	1.44	1.08	0.72	0.36	0.00
46 Aluminum Products	0.51	0.46	0.40	0.34	0.28	0.23	0.17	0.11	0.06	0.00
47 Copper and Copper Alloy Products	0.35	0.31	0.27	0.23	0.19	0.16	0.12	0.08	0.04	0.00
48 Nickel Products	0.77	0.64	0.51	0.38	0.25	0.20	0.15	0.10	0.05	0.00
49 Other Non-ferrous Metal Products	0.81	0.72	0.63	0.54	0.45	0.36	0.27	0.18	0.09	0.00
50 Boilers, Tanks and Plates	3.44	2.58	1.72	0.86	0.00	0.00	0.00	0.00	0.00	0.00
51 Fabricated Structural Metal Products	2.78	2.45	2.13	1.80	1.48	1.18	0.89	0.59	0.30	0.00
52 Other Metal Fabricated Products	2.93	2.56	2.19	1.82	1.44	1.16	0.87	0.58	0.29	0.00
53 Agricultural Machinery	0.08	0.06	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00
54 Other Industrial Machinery	2.23	1.67	1.12	0.57	0.01	0.01	0.01	0.00	0.00	0.00
55 Motor Vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56 Motor Vehicle Parts	0.27	0.24	0.21	0.18	0.15	0.12	0.09	0.06	0.03	0.00
57 Other Transport Equipment	1.53	1.16	0.79	0.43	0.06	0.05	0.04	0.02	0.01	0.00
58 Appliances and Receivers, Household	4.05	3.50	2.95	2.40	1.85	1.48	1.11	0.74	0.37	0.00
59 Other Electrical Products	3.31	2.61	1.92	1.22	0.53	0.42	0.32	0.21	0.11	0.00
60 Cement and Concrete Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61 Other Non-metallic Mineral Products	5.01	4.28	3.56	2.83	2.11	1.68	1.26	0.84	0.42	0.00
62 Gasoline and Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63 Other Petroleum and Coal Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64 Industrial Chemicals	1.71	1.52	1.33	1.14	0.95	0.76	0.57	0.38	0.19	0.00
65 Fertilizers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66 Pharmaceuticals	2.88	2.56	2.24	1.92	1.60	1.28	0.96	0.64	0.32	0.00
67 Other Chemical Products	2.79	2.48	2.17	1.86	1.55	1.24	0.93	0.62	0.31	0.00
68 Scientific Equipment	4.14	3.49	2.83	2.17	1.52	1.21	0.91	0.61	0.30	0.00
69 Other Manufactured Products	0.09	0.08	0.07	0.06	0.05	0.04	0.03	0.02	0.01	0.00
Total	1.96	1.66	1.35	1.05	0.74	0.59	0.44	0.30	0.15	0.00

Source Estimates by the Economic Council of Canada based on U.S. tariff schedules, Canada-U.S. Free Trade Agreement, December 1987 with the assistance of the Trade Negotiation Office, Ottawa. Base tariff rates by commodity for 1988 are taken from Economic Council of Canada Discussion Paper 331, August 1987.

Table A-3

Tariff Level Schedule Under the Canada-U.S. Free Trade Agreement, Percent Reduction, by Industry, Canada, 1989-98

		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1	Agriculture	11.3	22.5	33.8	45.0	56.3	65.0	73.8	82.5	91.3	100.0
2	Forestry	11.5	21.9	32.3	42.7	53.1	62.4	71.8	81.2	90.6	100.0
3	Fishing, Hunting, Trapping	21.9	37.9	53.9	69.9	85.9	88.7	91.5	94.4	97.2	100.0
4	Metal Mines	51.4	63.4	75.4	87.4	99.4	99.5	99.6	99.7	99.9	100.0
5	Mineral Fuels	17.0	26.5	35.9	45.4	54.8	63.9	72.9	81.9	91.0	100.0
6	Non-Metal Mines	79.5	84.3	89.0	93.8	98.6	98.9	99.1	99.4	99.7	100.0
7	Mining Services	35.0	51.1	67.2	83.3	99.4	99.5	99.6	99.8	99.9	100.0
8	Food and Beverage	12.1	22.1	32.2	42.3	52.4	61.9	71.4	80.9	90.5	100.0
9	Tobacco Products	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
10	Rubber and Plastics	10.7	21.2	31.6	42.1	52.6	62.1	71.6	81.0	90.5	100.0
11	Leather	62.3	67.0	71.7	76.4	81.1	84.9	88.7	92.5	96.2	100.0
12	Textiles	10.2	20.4	30.5	40.7	50.9	60.7	70.5	80.4	90.2	100.0
13	Knitting Mills	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
14	Clothing	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
15	Wood	13.4	24.9	36.4	47.9	59.4	67.5	75.6	83.7	91.9	100.0
16	Furniture and Fixtures	17.4	34.9	52.3	69.8	87.2	89.8	92.3	94.9	97.4	100.0
17	Paper Products	20.4	40.0	59.5	79.1	98.6	98.9	99.2	99.4	99.7	100.0
18	Printing and Publishing	19.9	39.8	59.7	79.6	99.5	99.6	99.7	99.8	99.9	100.0
19	Primary Metals	12.1	23.0	34.0	44.9	55.9	64.7	73.5	82.3	91.2	100.0
20	Metal Fabricating	13.3	25.4	37.5	49.6	61.7	69.3	77.0	84.7	92.3	100.0
21	Machinery	31.0	46.4	61.9	77.4	92.9	94.4	95.8	97.2	98.6	100.0
22	Transportation Equipment	17.5	27.2	36.9	46.6	56.4	65.1	73.8	82.5	91.3	100.0
23	Electrical Products	14.2	28.0	41.9	55.7	69.5	75.6	81.7	87.8	93.9	100.0
24	Non-Metal Minerals	30.4	39.6	48.8	57.9	67.1	73.7	80.3	86.8	93.4	100.0
25	Petroleum and Coal	10.2	20.3	30.4	40.6	50.7	60.5	70.4	80.3	90.1	100.0
26	Chemical Products	18.5	36.8	55.1	73.3	91.6	93.3	95.0	96.7	98.3	100.0
27	Misc. Manufacturing	11.4	22.3	33.3	44.2	55.1	64.1	73.1	82.0	91.0	100.0
	Total	14.7	26.8	38.9	50.7	62.6	70.0	77.6	85.0	92.4	100.0

Note: Figures have been rounded to one decimal place. Estimates of tariff for each industry was calculated by using the Input-Output Market-Share Matrix for 1981. Percent reduction in each year is calculated by dividing the the tariff rate eliminated in the year by the base rate in 1988 mentioned in the text.

Source See Table A-1 and the text for industry-specific tariff levels over 1989-1998.

Table A-4

Tariff Level Schedule Under the Canada-U.S. Free Trade Agreement, Percent Reduction, by Industry, U.S.A., 1989-98

	Industry	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1	Agriculture	11.5	22.8	34.2	45.6	57.0	65.6	74.2	82.8	91.4	100.0
2	Forestry	80.5	83.0	85.4	87.9	90.4	92.3	94.2	96.1	98.1	100.0
3	Fishing, Hunting, Trapping	18.7	37.2	55.6	74.1	92.5	94.0	95.5	97.0	98.5	100.0
4	Metal Mines	91.9	93.9	95.9	97.9	99.8	99.9	99.9	99.9	100.0	100.0
5	Mineral Fuels	56.0	67.0	78.0	89.0	100.0	100.0	100.0	100.0	100.0	100.0
6	Non-Metal Mines	27.5	37.2	47.0	56.8	66.6	73.3	79.9	86.6	93.3	100.0
7	Mining Services	80.9	85.6	90.4	95.1	99.9	99.9	99.9	100.0	100.0	100.0
8	Food and Beverage	10.1	20.1	30.1	40.1	50.2	60.1	70.1	80.1	90.0	100.0
9	Tobacco Products	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
10	Rubber and Plastics	11.4	21.3	31.3	41.3	51.2	61.0	70.7	80.5	90.2	100.0
11	Leather	83.9	85.7	87.6	89.4	91.3	93.0	94.8	96.5	98.3	100.0
12	Textiles	11.1	21.0	30.9	40.8	50.7	60.5	70.4	80.3	90.1	100.0
13	Knitting Mills	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
14	Clothing	10.1	20.1	30.1	40.1	50.1	60.1	70.0	80.0	90.0	100.0
15	Wood	20.2	38.4	56.6	74.8	93.0	94.4	95.8	97.2	98.6	100.0
16	Furniture and Fixtures	91.9	93.4	95.0	96.5	98.0	98.4	98.8	99.2	99.6	100.0
17	Paper Products	87.3	89.1	90.9	92.6	94.4	95.5	96.6	97.8	98.9	100.0
18	Printing and Publishing	28.2	36.2	44.2	52.2	60.2	68.1	76.1	84.1	92.0	100.0
19	Primary Metals	16.0	25.7	35.4	45.1	54.8	63.8	72.9	81.9	91.0	100.0
20	Metal Fabricating	19.6	31.2	42.7	54.3	65.9	72.7	79.5	86.4	93.2	100.0
21	Machinery	29.4	45.8	62.2	78.6	95.0	96.0	97.0	98.0	99.0	100.0
22	Transportation Equipment	18.5	36.2	53.9	71.5	89.2	91.4	93.5	95.7	97.8	100.0
23	Electrical Products	16.5	32.7	48.9	65.1	81.3	85.0	88.8	92.5	96.3	100.0
24	Non-Metal Minerals	21.0	32.4	43.9	55.3	66.8	73.4	80.1	86.7	93.4	100.0
25	Petroleum and Coal	98.9	99.1	99.3	99.5	99.7	99.7	99.8	99.9	99.9	100.0
26	Chemical Products	12.8	22.6	32.3	42.0	51.7	61.3	71.0	80.7	90.3	100.0
27	Misc. Manufacturing	52.9	59.9	67.0	74.1	81.1	84.9	88.7	92.5	96.2	100.0
	Total	14.8	27.8	41.3	54.4	67.8	74.4	80.9	87.0	93.5	100.0

Note: Figures have been rounded to one decimal place. Estimates of tariff for each industry was calculated by using the Input-Output Market-Share Matrix for 1981.
Source See Table A-2.

APPENDIX B

Estimation of Changes in Canadian Exports and Imports Due to the Government Procurement Provisions of the FTA

Government procurement policies are used to restrict imports in a number of ways. First, domestic procurement agencies may purchase domestically-produced goods in preference to identical foreign-produced goods even when the imported product is lower-priced. This is the premium price preference afforded domestic producers. Secondly, there can be a domestic content requirement by legislation like the Buy American Act, the Surface Transportation Act, and the Urban Mass Transportation Act. Finally, there are other biases due to selection criteria, namely, single-source contracting, domestic set-aside, lack of documentation of tenders, strategic goods (defence or technology-sensitive), etc. The GATT Agreement on government procurement does not include a) state/purchases of goods, b) federal purchases of services and c) defence goods.

Data and conceptual anomalies confront further obstacles to a realistic appraisal of discriminatory government procurement policies (for clarification, see Lodh and Magun (1987)).

The procedure for estimating the impact of government procurement policies on bilateral trade has been carried out on a quantity basis, i.e., how many imports by commodity are actually

(or likely to be) displaced by procurement policies. This approach is preferred because other evidence of tariff equivalent through a price-comparison method cannot always be obtained across commodities by country. The principal assumption in this approach is that governments compete for imports in the same way as the private sector does.

Thus, for each commodity, the extent of import displacement in each country is determined by the following equations:

$$\Delta M^{US}_{Can} = G_{Can} \, (U_{Can} * SH^{US}_{Can} - A^{US}_{Can}) \qquad (1)$$

$$\Delta M^{Can}_{US} = \Delta X^{US}_{Can} = G_{US} \, (U_{US} * SH^{Can}_{US} - A^{Can}_{US}) \qquad (2)$$

where,

ΔM^{US}_{Can} = additional imports of Canada from the U.S.;

ΔM^{Can}_{US} = additional imports of the U.S. from Canada;
= additional exports of Canada to the U.S.;

G_{Can} = government procurement of Canada;

G_{US} = government procurement of the U.S.;

U_{Can} = Canadian National Import Ratio;

SH^{US}_{Can} = U.S. share of imports in national imports of Canada; and

A^{US}_{Can} = actual import ratio of Canada from the U.S. in government procurement.

(Variables on the U.S. side have similar interpretations. See ECC Discussion Paper No. 331, August 1987, for the technical and empirical aspects of the above.)

Under the FTA, the American and Canadian governments have come up with the trade volumes by commodities that would be open for competitive bidding in contracts on each country's government procurement. These estimates, obtained from the Department of Supply and Services (DSS, Government of Canada), suggest that Canada would roughly open for bidding $400 million of Canadian goods under government procurement to the United States, and that the United States would open about $3.0 billion Canadian (or US$2.36 billion) to Canada under new lower thresholds of government procurement and product categories open for bidding. These vectors which are restricted only to bilateral trade (rather than to world trade) necessitate some changes in the characters of formulas given by equations (1) and (2). First, G_{Can} and G_{US} assume the new vectors dictated by the FTA rather than those of aggregate national government procurements in the fiscal year for the two countries. Second, G_{Can} and G_{US} are now open only for bilateral trade as negotiated by the two countries which mean that one needs to recompute the national private propensity to import

from each other's country as well as actual import ratios of government procurement in a bilateral mode. This we do as follows.

Set

$$U_{Can}^{US} = \frac{M_{Can}^{US}}{Q + M_{Can}^{US} - X_{Can}^{world}} \qquad (3)$$

where

U_{Can}^{US} = national import propensity from the United States for each dollar of Canadian absorption as constrained by the imports from the United States, domestic production capability and disappearance of Canadian exports;

M_{Can}^{US} = national imports of Canada from the United States;

Q = national domestic production of Canada; and

X_{Can}^{world} = national exports of Canada to the world.

Note now that, U_{Can} is defined in equation (1) as

$$U_{Can} = \frac{M_{Can}^{world}}{Q + M_{Can}^{world} - X_{Can}^{world}} \qquad (4)$$

It can be shown that given $M_{Can}^{US} = SH_{Can}^{US} * M_{Can}^{world}$, equation (3) can be expressed as

$$U_{Can}^{US} = \frac{U_{Can} * SH_{Can}^{US}}{1 - (1 - SH_{Can}^{US}) * U_{Can}} \qquad (5)$$

where $1 - SH_{Can}^{US}$ represent the share of the rest of the world (RW) in Canadian imports. Clearly, the higher the value of this share is, the lower would be the value of SH_{Can}^{US} which would diminish U_{Can}^{US} from the numerator side but would increase it from the denominator side. Equation (5) is the constrained national import ratio of Canada, and a similar formulation can be devised on the U.S. side.

Following a similar logic for the actual import ratio of each country's government procurement from the other in bilateral trade, we establish that

$$A_{Can}^{*US} = \frac{G_{Can} * A_{Can}^{US}}{G_{Can}\,(1 - A_{Can}^{US})} = A_{Can}^{US}/(1 - A_{Can}^{US}) \qquad (6)$$

Equation (6) gives the value of import ratio for the restricted case - i.e. government procurement is open to bidding from just Canadian and American producers.

In our estimates of trade impacts, we have then used two solution methods:

Solution 1: Constrained National Import Ratio

$$\Delta M^{US}_{Can} = G_{Can} \left(U^{US}_{Can} - A^{*US}_{Can}\right) \qquad (7)$$

Solution 2: Unconstrained National Import Ratio

$$\Delta M^{US}_{Can} = G_{Can} \left(U_{Can} - A^{*US}_{Can}\right) \qquad (8)$$

Solution 2 deviates from Solution 1 to the extent that aggregate national import ratio is applied rather than a constrained version of that ratio in equation (6).

The logic of Solution 2 is that when trade is only open to one country, the national (unconstrained) import ratio can be applied to Canadian government procurement to measure what private markets would have imported from the U.S. without restrictions on government procurement, provided the exporting country (U.S.) has the capacity to supply such goods at competitive prices. There are some biases inherent in both solutions and so we suggest

taking the average of the two approaches. A similar analogue can be established for the Canadian imports of the U.S. government procurement by changing subscripts and superscripts.

Basic Data and Results Under FTA

The requisite data and results of government procurements effects under FTA are shown in Tables B-1, B-2, and B-3. Tables B-1 and B-2 present the basic parameters for the evaluation of government procurement effects. To illustrate the various components which determine procurement effects by Canada and the U.S., the Canadian case shown in Table B-1 is explained as follows:

1) col. (3) shows the percentage of the U.S. imports per dollar of the Canadian government procurement as of 1984. For example, about 20.46 per cent of the Canadian government procurement in scientific equipment (commodity No. 68) is imported from the U.S.

2) col. (4) shows the percentage of the Canadian government procurement imported from the rest of the world, i.e. world less the U.S.; the sum of col. (3) and col. (4) is the aggregate world import ratio of the Canadian government procurement.

(3) col. (5) shows the Canadian aggregate national import ratio (herein interpreted as a private import ratio) in 1981. It is defined as imports (world) divided by the national absorption less exports, expressed as a percent of total domestic absorption. For example, Canada imports about 74 per cent of scientific equipment (commodity No. 68) for her domestic use from the whole world.

(4) col. (6) shows the share of U.S. imports in Canada's total imports by commodity.

(5) col. (7) shows the percentage of imports that Canada would import from the U.S. only if Canadian government has to spend 1$ for her domestic private use; it is derived by the application of private propensity to import (col. (5)) to the share of U.S. imports (col. (6)) (see equation (5)); this is the hypothetical national (or private) import ratio that has a dominant role in sorting procurement impacts on each country's imports from the other in a purely bilateral contract bidding.

(6) col. (8) shows the percentage of hypothetical imports of Canadian government in procurement that Canada would normally import from the U.S. for 1$ of Canadian procurement, if the rest of the world is excluded from bidding. This information is necessary because FTA procurements are only bilaterally constructed. Note that this ratio is affected by the

combination of col. (3) and col. (4) which say that with higher value of the rest of the world import share (col. (4)) the ratio becomes larger, viz, the ratio is 9.5 per cent (col. (8)) for commodity 12 (non-metallic minerals) instead of 7.18 per cent (col. (3)) because of 24.42 per cent share of the rest of the world (col. (4)).

The above principles of column construction are repeated for Table B-2 on the U.S. side. It needs to be stressed that the difference between col. (7) and col. (8), when applied to the procurement levels of each country, determines the levels of additional imports that each country needs to import from the other. By definition, lower this difference is, lower is the percentage of imports from each other's country.

Table B-3 shows the vectors of government procurement available for bilateral bidding in Canada and the U.S. in col. (3) and col. (4) respectively. These figures by I/O classification are derived after application of I/O-FSC concordance, where the procurement data are obtained from the Department of Supply and Services, Government of Canada, by FSC classification. The FSC composition of contract opening for bidding under the FTA, is believed to be a result of three factors: (1) threshold levels, (2) exclusion for some FSC or NATO Code goods, and (3) composition of actual contracts of procurement in the two countries pertaining to the year 1986.

With respect to the composition of procurement openings shown in Table B-3, one particular element stands out: the size and the role of scientific equipment (I/O No. 68) in aggregate procurement. About US$1 billion of scientific equipment in the total U.S. government procurement of US$2.3 billion (44 per cent) whereas in Canada it is C$131 million in total procurement of C$400 million (34 per cent). While the U.S. procurement in scientific equipment is large, Canada does not increase its exports of scientific equipment to the U.S., because the U.S. private import ratio is zero (see Table B-3, col. (5), I/O No. 68). Therefore, it is clear that the effect of government procurement on Canada's exports to, and imports from, the U.S., will be influenced by three main factors: 1) the volume of goods open for contracts by each country, 2) the relative private propensities to import from each other, and 3) actual normal government import propensities from the other country. The smaller the value of either of these first two factors, say in the U.S., the impact on Canadian exports to U.S. would be smaller, and vice-versa. A lower Canadian government propensity to import from the U.S. in relation to the private propensity from the U.S., other things remaining constant, would attract larger additional imports from the U.S.

Finally, for evaluating the impact of government procurement on exports and imports, only positive impacts are taken into account. These are shown in col. (5) and col. (6) of Table B-3. The average impacts of Solution 1 and Solution 2 is used to compute

additional imports from each other shown in col. (9) and col. (11) of Table B-3. The net gain in (exports less imports) Canadian exports of about $13 million is quite small relative to over $800 million reported in our earlier study (D.P. #331).

Table B-1

Canadian Federal Government Procurement: Basic Parameters for Evaluation by I/O Commodity

Commodity (col. 1)	I/O No. (M) (col 2)	Actual 1984 U.S. Import Ratio in Can. Govt Procurement (col. 3)	1984 Rest of World Import Ratio in Can Govt Procurement (col. 4)	1981 Canadian Import Ratio (col. 5)	1984 U.S. Share in Canadian Aggregate Imports (col. 6)	Hypothetical Can. Import Ratio in Canada-U.S. Trade (col. 7)	Constrained (1) Actual Import Ratio of Can. Govt Procurement (col. 8)
				(%)			
Grains	1	0.00	0.00	9.49	99.43	9.44	0.00
Live Animals	2	0.81	0.36	3.54	96.69	3.42	0.81
Other Agricultural Products	3	2.10	0.01	17.98	84.80	15.67	2.10
Forestry Products	4	0.00	0.00	2.00	99.98	2.00	0.00
Fish Landings	5	0.00	0.00	6.99	89.44	6.30	0.00
Hunting and Trapping Products	6	0.00	0.00	98.70	81.37	98.41	0.00
Iron Ores and Concentrates	7	0.00	0.00	48.03	99.46	47.89	0.00
Other Metal Ores and Concentrates	8	0.00	0.00	42.13	57.12	29.37	0.00
Coal	9	0.00	0.00	66.72	99.96	66.71	0.00
Crude Mineral Oils	10	0.00	0.00	49.45	12.73	11.08	0.00
Natural Gas	11	0.00	0.00	0.04	100.00	0.04	0.00
Non-metallic Minerals	12	7.18	24.42	35.53	83.11	31.42	9.50
Services Incedental to Mining	13	0.00	0.00	0.00	0.00	0.00	0.00
Meat Products	14	0.43	0.72	4.81	55.13	2.71	0.44
Dairy Products	15	1.02	1.71	2.32	12.48	0.29	1.04
Fish Products	16	0.00	0.00	54.13	53.85	38.85	0.00
Fruits and Vegetables Preparations	17	0.07	0.12	27.81	49.58	16.03	0.07
Feeds	18	0.00	0.00	6.72	87.66	5.94	0.00
Flour, Wheat, Meal and Other Cereals	19	0.00	0.00	4.44	72.73	3.27	0.00
Breakfast Cereal and Bakery Products	20	0.02	0.03	3.26	67.53	2.22	0.02
Sugar	21	0.06	0.10	0.92	93.44	0.86	0.06
Miscellaneous Food Products	22	0.02	0.04	19.36	56.38	11.92	0.02
Soft Drinks	23	1.03	1.72	1.73	52.03	0.91	1.05
Alcoholic Beverages	24	0.00	0.00	20.75	9.92	2.53	0.00
Tobacco Processed Unmanufactured	25	0.00	0.00	3.07	80.82	2.50	0.00
Cigarettes and Tobacco Manufactured	26	0.11	0.18	2.97	72.43	2.17	0.11
Tires and Tubes	27	1.23	2.66	31.17	65.78	22.95	1.27
Other Rubber Products	28	1.77	0.82	32.67	67.56	24.69	1.79
Plastic Fabricated Products	29	0.50	1.97	27.98	85.93	25.02	0.51
Leather and Leather Products	30	0.00	0.00	39.91	12.43	7.63	0.00
Yarns and Man Made Fibres	31	0.00	0.00	36.88	59.91	25.93	0.00
Fabrics	32	2.15	5.95	39.68	46.82	23.55	2.28
Other Textile Products	33	1.96	3.27	25.17	61.08	17.05	2.03
Hosiery and Knitted Wear	34	3.36	0.37	30.38	8.27	3.48	3.37
Clothing and Accessories	35	2.67	0.29	18.84	12.52	2.82	2.68
Lumber and Timber	36	0.00	0.00	26.28	95.70	25.44	0.00
Veneer and Plywood	37	0.08	1.51	18.98	46.82	9.89	0.08
Other Wood Fabricated Materials	38	4.02	3.73	5.70	81.18	4.68	4.17
Furniture and Fixtures	39	0.42	3.81	13.64	55.31	8.03	0.43
Pulp	40	0.00	0.00	11.59	80.19	9.51	0.00
Newsprint and Other Paper Stock	41	0.00	0.00	13.53	84.50	11.68	0.00
Paper Products	42	0.41	1.26	14.03	74.74	10.87	0.41
Printing and Publishing	43	44.72	4.94	17.30	87.35	15.45	47.04
Advertising, Print Media	44	65.29	1.37	0.00	0.00	0.00	66.20
Iron and Steel Products	45	1.20	3.35	24.40	57.36	15.62	1.24
Aluminum Products	46	8.46	1.85	21.52	82.15	18.38	8.62
Copper and Copper Alloy Products	47	0.01	0.00	17.77	57.26	11.01	0.01
Nickel Products	48	0.00	0.00	67.18	41.25	45.77	0.00
Other Non-ferrous Metal Products	49	0.44	1.23	53.88	85.70	50.03	0.45
Boilers, Tanks and Plates	50	1.46	3.34	14.35	82.58	12.16	1.51
Fabricated Structural Metal Products	51	0.58	6.82	9.82	57.14	5.85	0.63
Other Metal Fabricated Products	52	28.67	12.14	30.18	71.64	23.65	32.63
Agricultural Machinery	53	7.22	2.67	82.02	89.20	80.27	7.42
Other Industrial Machinery	54	4.54	2.00	67.61	78.92	62.22	4.63
Motor Vehicles	55	20.51	10.15	65.87	77.52	59.93	22.83
Motor Vehicle Parts	56	11.30	0.97	86.36	95.25	85.78	11.41
Other Transport Equipment	57	14.15	0.92	51.40	81.48	46.28	14.28
Appliances and Receivers, Household	58	18.02	6.88	57.95	43.70	37.58	19.35
Other Electrical Products	59	11.81	0.85	39.81	76.89	33.71	11.91
Cement and Concrete Products	60	0.00	0.00	2.80	97.87	2.74	0.00
Other Non-metallic Mineral Products	61	0.42	1.66	33.06	59.54	22.73	0.43
Gasoline and Fuel Oil	62	0.37	1.75	4.57	44.49	2.09	0.37
Other Petroleum and Coal Products	63	1.11	2.06	14.68	84.10	12.64	1.13
Industrial Chemicals	64	3.41	2.31	29.16	77.06	24.08	3.49
Fertilizers	65	7.85	0.04	25.22	96.41	24.54	7.85
Pharmaceuticals	66	0.00	0.00	26.71	48.83	15.11	0.00
Other Chemical Products	67	91.00	0.60	25.91	80.73	22.01	91.55
Scientific Equipment	68	20.46	0.96	73.88	71.91	67.03	20.66
Other Manufactured Products	69	7.47	2.09	45.79	51.14	30.16	7.63
Total		19.99	3.05	27.00	72.00	21.37	20.62

Source: Economic Council of Canada.

Table B-2

U.S. Federal Government Procurement: Basic Parameters for Evaluation by I/O Commodity

Commodity (col. 1)	I/O No. (col. 2)	Actual 1984 Can. Import Ratio in U.S. Govt Procurement (col. 3)	1984 Rest of World Import Ratio in U.S. Govt Procurement (col. 4)	1977 U.S. Import Ratio (col. 5)	1983 Canadian Share in U.S. Aggregate Imports (col. 6)	Hypothetical U.S.-Import Ratio in Canada-U.S. Trade (col. 7)	Counterfactual (Calc.) Actual Import Ratio in U.S. Govt Procurement (col. 8)
				(%)			
Grains	1	0.00	0.00	0.05	81.51	0.88	0.00
Live Animals	2	0.00	0.00	0.69	45.80	0.32	0.00
Other Agricultural Products	3	0.00	3.06	4.73	12.50	0.62	0.00
Forestry Products	4	0.00	0.00	1.72	33.23	0.58	0.00
Fish Landings	5	0.00	0.00	11.58	43.40	5.58	0.00
Hunting and Trapping Products	6	0.00	0.00	0.00	0.00	0.00	0.00
Iron Ore and Concentrates	7	0.00	0.00	0.00	72.00	0.00	0.00
Other Metal Ore and Concentrates	8	0.00	0.00	29.85	11.29	4.59	0.00
Coal	9	0.00	0.00	4.11	24.84	1.05	0.00
Crude Mineral Oils	10	0.00	0.00	0.21	7.78	0.02	0.00
Natural Gas	11	0.00	0.00	0.00	0.00	0.00	0.00
Non-metallic Minerals	12	7.82	72.13	86.24	30.91	65.94	28.05
Services Incidental to Mining	13	0.00	0.00	0.66	66.56	0.44	0.00
Meat Products	14	0.00	5.28	4.56	16.65	0.79	0.00
Dairy Products	15	0.00	11.82	0.94	2.42	0.02	0.00
Fish Products	16	0.00	0.00	2.57	16.15	0.42	0.00
Fruits and Vegetables Preparations	17	0.00	0.87	0.84	8.35	0.80	0.00
Feeds	18	0.00	0.00	0.34	69.43	0.24	0.00
Flour, Wheat, Meal and Other Cereals	19	0.00	0.00	0.07	54.54	0.04	0.00
Breakfast Cereal and Bakery Products	20	0.00	0.23	0.54	40.25	0.22	0.00
Sugar	21	0.00	0.73	1.39	0.53	0.01	0.00
Miscellaneous Food Products	22	0.00	0.31	7.19	3.78	0.29	0.00
Soft Drinks	23	0.00	11.87	8.42	14.41	1.31	0.00
Alcoholic Beverages	24	0.00	0.00	3.40	16.83	0.59	0.00
Tobacco Processed Unmanufactured	25	0.00	0.00	0.64	5.55	0.04	0.00
Cigarettes and Tobacco Manufactured	26	0.00	1.33	2.79	2.93	0.08	0.00
Tires and Tubes	27	5.37	0.63	0.23	27.40	0.06	5.40
Other Rubber Products	28	0.33	9.37	7.73	11.99	0.99	0.36
Plastic Fabricated Products	29	0.00	0.47	27.12	1.50	0.56	0.00
Leather and Leather Products	30	0.00	0.00	1.78	8.02	0.15	0.00
Yarns and Man Made Fibres	31	0.00	0.00	4.38	1.73	0.08	0.00
Fabrics	32	0.00	0.62	29.07	5.35	2.15	0.00
Other Textile Products	33	0.54	4.20	7.78	0.44	0.04	0.36
Hosiery and Knitted Wear	34	0.62	18.48	0.14	1.24	0.00	0.76
Clothing and Accessories	35	0.51	15.21	18.68	95.74	18.02	0.60
Lumber and Timber	36	0.00	0.00	8.36	17.33	1.56	0.00
Veneer and Plywood	37	0.00	11.45	8.65	38.00	3.47	0.00
Other Wood Fabricated Materials	38	0.12	10.84	4.12	25.65	1.09	0.13
Furniture and Fixtures	39	0.18	2.53	2.34	92.63	2.17	0.18
Pulp	40	0.00	0.00	9.24	90.23	8.41	0.00
Newsprint and Other Paper Stock	41	0.00	0.00	6.49	34.92	2.26	0.00
Paper Products	42	0.00	0.37	1.19	28.03	0.34	0.00
Printing and Publishing	43	0.00	3.15	0.00	0.00	0.00	0.00
Advertising, Print Media	44	0.73	18.94	10.01	13.62	1.49	0.90
Iron and Steel Products	45	19.73	12.96	5.87	35.78	2.18	22.67
Aluminum Products	46	0.28	2.84	1.24	17.46	0.22	0.28
Copper and Copper Alloy Products	47	0.30	2.80	26.54	33.23	16.06	0.31
Nickel Products	48	0.00	0.00	0.05	5.25	0.00	0.00
Other Non-ferrous Metal Products	49	8.76	5.76	0.99	38.96	0.40	9.30
Boilers, Tanks and Plates	50	0.32	2.21	4.95	17.00	0.88	0.35
Fabricated Structural Metal Products	51	0.03	2.85	12.63	33.00	4.55	0.03
Other Metal Fabricated Products	52	0.33	1.47	6.43	11.41	0.78	0.34
Agricultural Machinery	53	4.56	1.55	1.52	36.02	0.55	4.43
Other Industrial Machinery	54	0.33	4.42	24.01	56.36	15.11	0.35
Motor Vehicles	55	1.90	2.27	13.83	21.10	2.28	1.94
Motor Vehicle Parts	56	0.30	2.40	7.47	2.86	0.23	0.31
Other Transport Equipment	57	0.27	1.34	7.16	6.34	0.49	0.27
Appliances and Receivers, Household	58	1.88	12.13	2.19	56.59	1.24	1.22
Other Electrical Products	59	0.23	0.96	6.36	15.93	1.07	0.23
Cement and Concrete Products	60	0.00	0.00	1.00	41.21	0.41	0.00
Other Non-metallic Mineral Products	61	0.00	0.57	79.75	16.51	39.41	0.00
Gasoline and Fuel Oil	62	0.26	20.63	0.00	24.67	0.00	0.27
Other Petroleum and Coal Products	63	0.25	20.25	26.56	0.00	0.00	0.26
Industrial Chemicals	64	0.00	4.38	1.23	2.76	0.03	0.00
Fertilizers	65	0.00	11.11	10.31	31.10	3.45	0.00
Pharmaceuticals	66	0.00	0.00	8.15	7.31	0.64	0.00
Other Chemical Products	67	0.38	0.04	34.59	2.88	1.09	0.38
Scientific Equipment	68	0.78	0.75	0.00	0.00	0.00	0.79
Other Manufactured Products	69	0.14	2.98	0.00	0.00	0.00	0.14
Total		0.47	4.86	8.10	28.00	1.75	0.49

Source: Economic Council of Canada.

Table B-3

Government Procurement: Canada-U.S. Free Trade Impacts

Commodity (col. 1)	SIC 80 (col. 2)	FTA Annex of Govt Procurement Canada (col. 3) ($ 1000)	FTA Annex of Govt Procurement U.S. (col. 4) ($US 1000)	[Scenario 1] Additional Pur. Impacts in Can. Govt Procurement (col. 5) ($ 1000)	[Scenario 1] Additional Pur. Impacts in U.S. Govt Procurement (col. 6) ($US 1000)
Grains	1			0	0
Live Animals	2	417	1,869	11	3
Other Agricultural Products	3	0	0	0	0
Forestry Products	4	0	0	0	0
Fish Landings	5	0	0	0	0
Hunting and Trapping Products	6	0	0	0	0
Iron Ore and Concentrates	7	0	322	0	0
Other Metal Ores and Concentrates	8	0	0	0	0
Coal	9	0	0	0	0
Crude Mineral Oils	10	0	0	0	0
Natural Gas	11	0	0	0	0
Non-metallic Minerals	12	90	1,435	20	544
Services Incidental to Mining	13	0	0	0	0
Meat Products	14	0	0	0	0
Dairy Products	15	0	0	0	0
Fish Products	16	0	0	0	0
Fruits and Vegetables Preparations	17	0	0	0	0
Feeds	18	0	0	0	0
Flour, Wheat, Meal and Other Cereals	19	0	0	0	0
Breakfast Cereal and Bakery Products	20	0	0	0	0
Sugar	21	0	0	0	0
Miscellaneous Food Products	22	10,091	51,871	1,201	152
Soft Drinks	23	0	0	0	0
Alcoholic Beverages	24	0	0	0	0
Tobacco Processed Unmanufactured	25	0	0	0	0
Cigarettes and Tobacco Manufactured	26	0	0	0	0
Tires and Tubes	27	1,522	15,737	320	0
Other Rubber Products	28	0	0	0	0
Plastic Fabricated Products	29	0	0	0	0
Leather and Leather Products	30	0	0	0	0
Yarns and Man Made Fibres	31	0	0	0	0
Fabrics	32	0	0	0	0
Other Textile Products	33	1,954	329	295	0
Hosiery and Knitted Wear	34	0	0	0	0
Clothing and Accessories	35	4,811	2,728	7	475
Lumber and Timber	36	0	0	0	0
Veneer and Plywood	37	8,304	10,481	823	264
Other Wood Fabricated Materials	38	0	0	0	0
Furniture and Fixtures	39	32,284	97,054	2,453	1,932
Pulp	40	0	0	0	0
Newsprint and Other Paper Stock	41	0	0	0	0
Paper Products	42	24,504	77,109	2,563	259
Printing and Publishing	43	2,163	21,845	0	0
Advertising, Print Media	44	0	0	0	0
Iron and Steel Products	45	1,320	252	102	0
Aluminum Products	46	0	0	0	0
Copper and Copper Alloy Products	47	0	0	0	0
Nickel Products	48	0	0	0	0
Other Non-ferrous Metal Products	49	0	0	0	0
Boilers, Tanks and Plates	50	7,021	4,373	812	24
Fabricated Structural Metal Products	51	2,479	8,193	130	371
Other Metal Fabricated Products	52	15,340	191,502	0	849
Agricultural Machinery	53	1,819	1,813	1,325	0
Other Industrial Machinery	54	30,021	256,490	21,596	34,926
Motor Vehicles	55	18,972	66,396	7,040	884
Motor Vehicle Parts	56	0	0	0	0
Other Transport Equipment	57	5,826	107,724	1,864	254
Appliances and Receivers, Household	58	8,632	43,696	1,574	0
Other Electrical Products	59	34,025	178,824	7,545	1,428
Cement and Concrete Products	60	4,776	10,88[illegible]	186	42
Other Non-metallic Mineral Products	61	1,528	38,141	341	13,880
Gasoline and Fuel Oil	62	9,526	41,164	148	0
Other Petroleum and Coal Products	63	13,543	32,074	1,561	0
Industrial Chemicals	64	0	0	0	0
Fertilizers	65	827	3,087	128	186
Pharmaceuticals	16	0	0	0	0
Other Chemical Products	67	4,741	47,844	0	282
Scientific Equipment	68	131,480	1,015,901	68,946	0
Other Manufactured Products	69	11,852	65,423	2,480	0
Total		488,147	2,364,840	115,899	57,946

Source: Economic Council of Canada.

Table B-3(cont'd)

Government Procurement: Canada-U.S. Free Trade Impacts

Commodity (col. 1)	I/O (M) col. 2	Solution 2 Additional Imports in Can. Govt Procurement (col. 7)	Solution 2 Additional Imports in U.S. Govt Procurement (col. 8)	Average Additional Imports in Can. Govt Procurement (col. 9)	Average Additional Imports in U.S. Govt Procurement (col. 10)	Average Additional Imports in U.S. Govt Procurement (col. 11)
		($1000)	($US1000)	($1000)	($US1000)	($1000)
Grains	1	0	0	0	0	0
Live Animals	2	11	7	11	5	7
Other Agricultural Products	3	0	0	0	0	0
Forestry Products	4	0	0	0	0	0
Fish Landings	5	0	0	0	0	0
Hunting and Trapping Products	6	0	0	0	0	0
Iron Ores and Concentrates	7	0	0	0	0	0
Other Metal Ores and Concentrates	8	0	0	0	0	0
Coal	9	0	0	0	0	0
Crude Mineral Oils	10	0	0	0	0	0
Natural Gas	11	0	0	0	0	0
Non-metallic Minerals	12	23	835	22	689	893
Services Incedental to Mining	13	0	0	0	0	0
Meat Products	14	0	0	0	0	0
Dairy Products	15	0	0	0	0	0
Fish Products	16	0	0	0	0	0
Fruits and Vegetables Preparations	17	0	0	0	0	0
Feeds	18	0	0	0	0	0
Flour, Wheat, Meal and Other Cereals	19	0	0	0	0	0
Breakfast Cereal and Bakery Products	20	0	0	0	0	0
Sugar	21	0	0	0	0	0
Miscellaneous Food Products	22	1,952	3,730	1,576	1,941	2,513
Soft Drinks	23	0	0	0	0	0
Alcoholic Beverages	24	0	0	0	0	0
Tobacco Processed Unmanufactured	25	0	0	0	0	0
Cigarettes and Tobacco Manufactured	26	0	0	0	0	0
Tires and Tubes	27	455	0	393	0	0
Other Rubber Products	28	0	0	0	0	0
Plastic Fabricated Products	29	0	0	0	0	0
Leather and Leather Products	30	0	0	0	0	0
Yarns and Man Made Fibres	31	0	0	0	0	0
Fabrics	32	0	0	0	0	0
Other Textile Products	33	452	23	373	11	15
Hosiery and Knitted Wear	34	0	0	0	0	0
Clothing and Accessories	35	778	493	393	484	627
Lumber and Timber	36	0	0	0	0	0
Veneer and Plywood	37	1,587	907	1,205	635	823
Other Wood Fabricated Materials	38	0	0	0	0	0
Furniture and Fixtures	39	4,263	2,096	3,358	2,014	2,608
Pulp	40	0	0	0	0	0
Newsprint and Other Paper Stock	41	0	0	0	0	0
Paper Products	42	3,337	918	2,950	588	762
Printing and Publishing	43	0	0	0	0	0
Advertising, Print Media	44	0	0	0	0	0
Iron and Steel Products	45	259	0	210	0	0
Aluminum Products	46	0	0	0	0	0
Copper and Copper Alloy Products	47	0	0	0	0	0
Nickel Products	48	0	0	0	0	0
Other Non-ferrous Metal Products	49	0	0	0	0	0
Boilers, Tanks and Plates	50	979	202	895	113	146
Fabricated Structural Metal Products	51	228	1,033	179	702	909
Other Metal Fabricated Products	52	0	11,692	0	6,271	8,119
Agricultural Machinery	53	1,357	0	1,341	0	0
Other Industrial Machinery	54	23,944	55,957	22,920	45,441	58,837
Motor Vehicles	55	8,165	7,884	7,602	4,385	5,678
Motor Vehicle Parts	56	0	0	0	0	0
Other Transport Equipment	57	2,162	7,419	2,013	3,826	4,955
Appliances and Receivers, Household	58	3,331	414	2,453	211	273
Other Electrical Products	59	9,656	10,462	8,601	5,945	7,698
Cement and Concrete Products	60	190	101	188	71	92
Other Non-metallic Mineral Products	61	499	30,418	420	22,724	29,423
Gasoline and Fuel Oil	62	400	0	282	0	0
Other Petroleum and Coal Products	63	1,837	8,404	1,699	4,202	5,441
Industrial Chemicals	64	0	0	0	0	0
Fertilizers	65	144	316	141	211	273
Pharmaceuticals	66	0	0	0	0	0
Other Chemical Products	67	0	16,094	0	8,213	10,634
Scientific Equipment	68	69,961	0	65,463	0	0
Other Manufactured Products	69	4,217	0	3,354	0	0
Total		140,188	159,405	128,041	108,686	140,726

Source: Economic Council of Canada.

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